

**SHORT
RANGE
TRANSIT
PLAN**

2005 - 2010

FRESNO-CLOVIS URBANIZED AREA

SHORT RANGE TRANSIT PLAN

2005-2010

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Chapter 1

Introduction

1.1.0 Purpose of SRTTP

The Fresno Area Express (FAX) Short-Range Transit Plan (SRTTP), FY 2005-2010, is the bi-annual update to the operating plan and the capital program. The purpose of this Plan is to promote a comprehensive, coordinated and continuous planning process for transit service in the Fresno-Clovis Metropolitan Area (FCMA) over a five-year planning horizon. This plan proposes specific recommendations for implementing the long-range objectives of Fresno County's Regional Transportation Plan, and will guide the provision of transit services in the FCMA over the next five years.

The Plan is also used to develop transit capital programming documents which are the basis for State and Federal funding decisions. The Plan provides both the Federal Transit Administration (FTA) and the Council of Fresno County Governments (COFCG) with the detailed planning justification for awarding operating and capital grants to FAX. This Plan was developed through an analysis of existing needs and available services, and provides an evaluation of projected needs and funding availability for the next five years.

1.2.0 Summary of Existing Transit System

FAX is a department of the City of Fresno and is governed by the Fresno City Council. The City of Fresno is the responsible agency for implementing this SRTTP, and for providing transit service within the city limits. FAX's ability to deliver transit service will be impacted by laws, regulations, and policy decisions of several external agencies. These agencies include: the Federal Transit Administration (FTA), the State of California Transportation Department (CALTRANS), the Council of Fresno County Governments (COFCG), Fresno County, the City of Clovis, the Fresno County Rural Transit Agency (FCRTA), the Consolidated Transportation Service Agencies (CTSA), and various private transportation operators. Although the City of Fresno is the agency responsible for providing metropolitan transit service and for implementing the Plan's recommendations, its actions will be influenced by the actions of these external agencies. This document will also address the same issues for Handy Ride and the City of Clovis Transportation systems which are described as follows;

- The FAX fixed-route network follows a modified grid pattern with intersecting north-south and east-west bus lines. The Plan proposes to maintain the grid network in the service area, provide higher levels of service and improved amenities to make transit more attractive and implement innovative approaches to address congestion and air quality concerns. The Plan establishes an ongoing process of system evaluation and management to assess the effectiveness and efficiency of existing and proposed services.

- Handy Ride is a demand-responsive program oriented toward providing a high level of service to elderly and disabled persons who, because of physical or mental disabilities, are unable to ride the fixed-route system. In April, 1993, FAX awarded the contract for Handy Ride services to Laidlaw (formerly Mayflower) Contract Services. The Plan proposes to evaluate Laidlaw to ensure that FAX meets its responsibilities under the Americans with Disabilities Act (ADA) for Handy Ride service.

FAX operates some service within the City of Clovis and the unincorporated urban areas and receives funding from Clovis and Fresno County for this service. It is appropriate that both agencies have a role in the policy making process impacting FAX. The Plan includes a mechanism for such a role.

1.2.1 Mission Statements

In 1997, Fax and Handy Ride adopted the following Mission Statements which set a strategic direction and a framework for making policy, planning, and budgetary decisions:

FAX Mission Statement

“The mission of Fresno Area Express is to provide a comprehensive transportation system that improves the quality of life in our community.”

Handy Ride Mission Statement

“Handy Ride provides transportation comparable to the FAX City fixed-route bus system to meet the needs of American with Disabilities Act (ADA) eligible persons who cannot functionally use the FAX City fixed-route bus system.”

1.2.2 Public Transportation Policy Directions

The policies contained in the Regional Transportation Plan for Fresno County, Fifteenth Edition, (proposed adoption by the Council of Fresno County Governments, June 2004) provides general guidance to transit operations within the metropolitan area. The following Goals, Objectives, and Policies provide the framework for developing a sound public transportation system throughout Fresno County. They are specifically targeted toward the public and social service transportation systems.

Policy Direction for FAX

- Continue to pursue expanded federal, state, and local funding for both public and social service transportation.
 - ▶ Provide transportation that meets the public transportation needs of the service area.
 - ▶ Provide transit services that serve elderly, disabled, and related communities.

- ▶ Support the coordination and consolidation of social service transportation.
- Encourage safety, appropriate frequency of bus service, reasonable fares and the provision of adequate service to satisfy all transit needs which are reasonable to meet.
 - ▶ Provide reliable and convenient public transit service.
 - ▶ Provide clean attractive and comfortable vehicles and facilities.
 - ▶ Provide a system which is safe for both passengers and the general public.
- Provide complete and accurate information that makes public transportation user friendly.
 - ▶ Create and produce publications that promote the use of public transportation
- Develop a multi-modal transportation network.
 - ▶ Coordinate service to facilitate multi-modal and inter-system transfers.
 - ▶ Coordinate fare and transfer policies along with service information programs.
- Support transportation investments that work toward accomplishing air quality goals, optimize utilization of land and encourage a stable economic base.
 - ▶ Provide incentives to reduce dependency on automobile travel without compromising travel mobility.
 - ▶ Evaluate the transportation system for air quality, energy and efficiency impacts.

1.2.3 Strategic Plan

At the core of FAX strategic plan are seven goals, each with specific performance measures. The performance measures encompass the full range of FAX's responsibilities. The transit specific performance measures reflect FAX's current targets for achievement and are discussed below;

Goals for FAX

GOAL 1: SERVICE LEVELS

FAX WILL PROVIDE PUBLIC TRANSPORTATION SERVICE TO A MAXIMUM NUMBER OF PEOPLE IN THE FRESNO-CLOVIS METROPOLITAN AREA.

Objective A: To provide a transit system that meets the public transportation needs of the service area.

Standard 1: FAX's fixed-route bus system should be designed so that a minimum of 90% of the service area population resides within one-half mile of a bus route.

- Standard 2: FAX scheduled service should provide for maximum headways of 60 minutes on every route whenever service is operated.
- Standard 3: FAX should meet the demand for public transit service, at some level, seven days a week.
- Objective B: To provide a transit service (fixed-route and demand-responsive) that adequately serves the elderly and disabled population.
 - Standard 1: FAX should maintain fixed-route fare levels for elderly and disabled persons no higher than one-half the base fare.
 - Standard 2: All wheelchair lifts should be operable at all times.
 - Standard 3: FAX will continue to operate Handy Ride demand-response service in compliance with the requirements of the Americans with Disabilities Act of 1990.
- Objective C: To secure a stable and sufficient local funding mechanism.
 - Standard 1: FAX should identify and coordinate funding mechanisms that will address all transportation funding needs in the Fresno-Clovis Metropolitan Area.
 - Standard 2: FAX should identify short and long-range funding needs, and maximize revenue resources utilizing all funding mechanisms including federal grants, state enabling legislation and farebox revenue.

GOAL 2: SERVICE QUALITY

FAX WILL PROVIDE A QUALITY, CONVENIENT AND RELIABLE SERVICE.

- Objective A: To provide reliable and convenient public transit service.
 - Standard 1: FAX should operate its fixed-route buses so that on-time performance is achieved at least 92% of the time. A bus is considered "on-time" if it leaves no more than five minutes after the scheduled departure time.
 - Standard 2: FAX should complete 99.5% of all scheduled trips.
- Objective B: To provide clean, attractive and comfortable vehicles and facilities.
 - Standard 1: All buses returning to the yard after revenue service should be vacuumed and dusted before being assigned for service the following day.
 - Standard 2: The exteriors of FAX buses should be cleaned at least once a week, when there is inclement weather, or as needed.
 - Standard 3: Bus stops should be serviced weekly, to including sign, bench and shelter repair, litter removal and weed control as needed.

Standard 4: In the winter, the heaters on FAX buses should work 100% of the time.

Standard 5: In the summer, 100% of all buses on the street should have operable air-conditioners.

Objective C: To provide a safe system.

Standard 1: FAX buses should, at a minimum, operate in excess of 100,000 miles between preventable accidents, and bus operators should be formally recognized for their safe driving.

Standard 2: Buses should be checked daily for proper operation and condition of lights, mirrors, radios and fluid. Detailed mechanical inspections should be done every 1,000 miles. Operations, Maintenance and other employees will be provided safety training at the beginning of their employment and such training will be updated on a regularly-scheduled basis.

Standard 3: FAX should continue to implement a security program.

Objective D: To record and respond to all public comments.

Standard 1: FAX will continue to track, evaluate, and follow-up to all compliments, complaints and inquiries from the public.

GOAL 3: PROVIDE EFFICIENT AND EFFECTIVE SERVICE

FAX WILL OPERATE AN EFFICIENT AND EFFECTIVE BUS SYSTEM.

Objective A: To establish and maintain system-wide productivity indicators.

Standard 1: FAX should achieve a 28% farebox recovery ratio.

Standard 2: FAX should achieve a system-wide standard of 40 boardings per revenue hour system wide.

Standard 3: FAX should record and report at least, monthly, the following performance indicators:

Total Monthly Ridership
Total Monthly Expenses
Total Revenue Miles
Total Operating Expense Per Passenger
Total Revenue Per Revenue Hour
Total Revenue Per Revenue Mile
Passengers Per Revenue Mile
Average Saturday Ridership
Percentage of Scheduled Trips Completed
Total Road Calls

Total Monthly Revenue
Total Revenue Hours
Farebox Ratio
Total Operating Expense Per Revenue Hour
Total Operating Expense Per Revenue Mile
Passengers Per Revenue Hour
Average Weekday Ridership
Average Sunday Ridership
Percentage of Trips on Time

GOAL 4: SYSTEM IMAGE

FAX WILL PROMOTE ITS SERVICE AND IMAGE IN THE COMMUNITY.

Objective A: To maintain an active marketing program.

Standard 1: FAX should stress the positive impact of its operation in the community through press releases, speeches and involvement in community activities.

Standard 2: FAX should become involved in and work with citizens groups, the Chamber of Commerce, the Downtown Association and other area merchant associations to communicate its services and benefits.

Standard 3: FAX should maintain public outreach programs with area employers to promote transit.

Objective B: To provide complete and accurate public transit information.

Standard 1: Current bus schedules and system information should be available to the public at all major public facilities, trip generators and transfer points.

Standard 2: Service information should be available by telephone to the public at all times.

GOAL 5: PRIVATE SECTOR AND CITIZEN INVOLVEMENT

FAX WILL PROVIDE OPPORTUNITIES FOR CITIZENS AND PRIVATE BUSINESS TO PARTICIPATE IN PUBLIC TRANSPORTATION OPERATIONS.

Objective A: To provide opportunities for citizen input into FAX's operations.

Standard 1: FAX will hold public hearings, as required by the federal government;

(a) When there is a change in any fare, except promotional fare changes for up to 180 days.

(b) When there is a service change leading to a 25 percent or greater reduction in total revenue service hours or revenue service miles.

Standard 2: FAX should coordinate and cooperate with the Council of Fresno County Governments (COFCG) in its annual "unmet transit needs" process, including participation in the COFCG Social Services Transportation Advisory Council (SSTAC) meetings and Public Hearing.

GOAL 6: INTEGRATED MULTI-MODAL TRANSPORTATION

FAX WILL PROVIDE AN INTEGRATED MULTI-MODAL TRANSPORTATION SYSTEM WHICH FACILITATES THE MOVEMENT OF PEOPLE.

Objective A: Develop a multi-modal transportation network.

Standard 1: FAX will provide transit service to all airport and passenger rail facilities in the FCMA.

GOAL 7: COORDINATE TRANSPORTATION, LAND USE, AND AIR QUALITY POLICIES

FAX WILL COORDINATE TRANSPORTATION POLICIES WITH LAND USE AND AIR QUALITY POLICIES.

Objective A: Support transportation investments that work toward accomplishing air quality goals, optimize utilization of land and encourage a stable economic base.

Standard 1: Evaluate FAX system for air quality, energy, and efficiency impacts.

Standard 2: FAX will coordinate with City, County, and Regional agencies to promote efficient transportation policies.

1.2.4 Organization

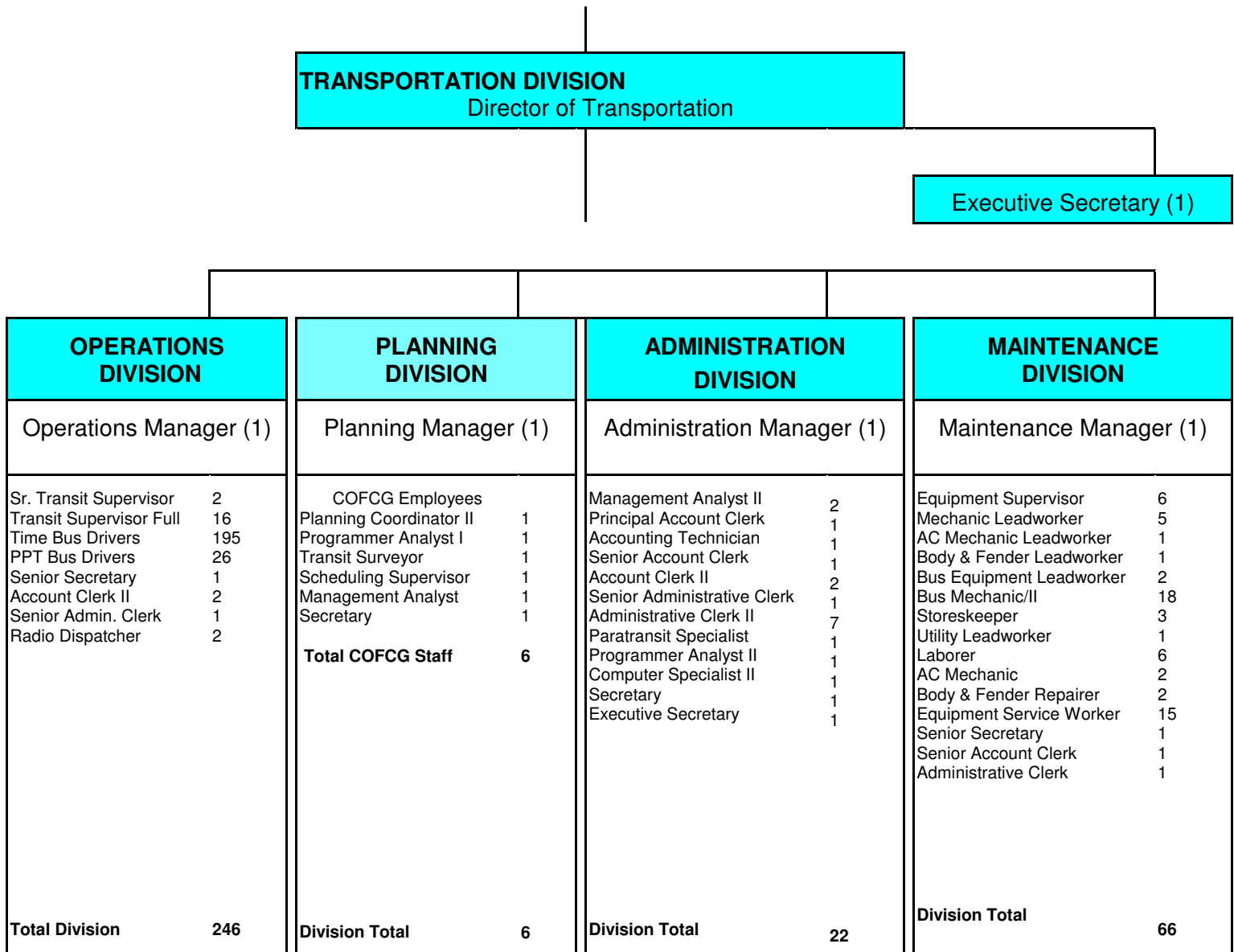
FAX

FAX is operated by the City of Fresno and is a department headed by the City's Director of Transportation. The Organizational Structure of FAX is shown on Exhibit 1.1.

Fresno City Council

The Fresno City Council consists of seven members within seven jurisdictions of the City of Fresno, and is the policy making board for FAX. The Council is responsible for setting operating policy and annually adopting the budget. FAX underwent a major reorganization of the Department in FY87. The reorganization eliminated the Research and Development Division. The COFCG is under a contract agreement with FAX and is responsible for planning, service evaluation, service development, and public outreach functions. This cooperative agreement between the agencies has eliminated duplication of effort and has resulted in substantial cost savings.

**Exhibit 1.1
FAX Organizational Chart**



FAX Committees

The FAX Americans with Disabilities Act (ADA) Committee was established by the City of Fresno and provides input into the decision making process. The ADA Committee is a standing committee which consists of members of the public and provides FAX with input on key issues relating to the provision of transit services in the FCMA. This committee provides recommendations regarding accessible services to the Fresno City Council. In addition, the Social Services Transportation Advisory Committee (SSTAC) was formed by the COFCG Policy Board to aid in its review of transit issues with emphasis on the annual identification of transit needs within Fresno County. These include the needs of transit dependent and transit disadvantaged persons, including the elderly, disabled and persons of limited means. This Advisory Council to the COFCG consists of a committee of members from the public who advises the COFCG Board on any major transit issues. FAX staff participate as part of this committee on a regular basis.

FAX Staff

The Department of Transportation is responsible for the day to day management of FAX and reports directly to the City Manager. FAX consists of four divisions, all headed by a Director of Transportation. Divisions include Administration, Operations, Maintenance and Planning.

The Administration Division is responsible for intergovernmental coordination, budgets, grant management, data collection, computer services, personnel, contract administration and policy development.

Operations is responsible for managing the day-to-day operations of transit service, including driver training. In FY05, FAX vehicle operations consisted of 195 permanent bus driver positions and eighteen field supervisor positions. Weekday service currently requires an average of 150 drivers with Saturday and Sunday service requiring 90 drivers. The remaining drivers are designated for the extra-board, vacation and sick relief.

Maintenance is responsible for maintaining the fixed-route vehicles, monitoring the maintenance of Handy Ride vehicles, and maintaining bus stops and shelters.

Planning prepares transit related documents such as the Short Range Transit Plan and Regional Transportation Plan and develop routes and scheduling of transit service. Planning analyses ridership data of the FAX system in order to do system evaluation and system adjustments. The FAX Planning Division is also responsible for public information and outreach.

1.3.0 Overview of SRTP

The SRTP is divided into 5 chapters:

- **Chapter 1** provides an overview of FAX and Handy Ride, and the purpose for the SRTP.
- **Chapter 2** provides a general overview of the existing FAX and Handy Ride transit systems, including descriptions of current transit services and transit related programs.
- **Chapter 3** describes the proposed service improvement plan for FAX and Handy Ride, including recommendations for enhancing customer service and improving mobility and access.
- **Chapter 4** sets out the detailed five-year financial plan for FAX and Handy Ride. It also describes the Capital Plans which support the services described in Chapters 2 and 3.
- **Chapter 5** provides an overview of the existing City of Clovis transit system, including descriptions of current transit services, recommendations for enhancing customer service, and a detailed five-year financial plan for the transit system.

The SRTP includes appendices which provide more detailed information on the Fleet Inventories of each transit agency. In addition, a Glossary of terms is included in **Appendix F** to provide assistance in defining transportation related terms.

Chapter 2

System Description

2.1.0 Introduction

Public transit began in Fresno, as in many cities, with horse drawn street cars. The first horse car franchise was issued to the Fresno Street Railroad in 1887, and it began operation in 1889. By the turn of the century, interest in electric street cars had grown to a point where the Fresno City Railway (FCRY) had been granted a 50 year franchise for the operation of electric streetcars. The system started operations in 1902, and by the end of World War I (now the Fresno Traction and Rail Company) had 50 miles of track. In 1939 the bus service completely replaced the street car system. A description of the current services is as follows:

Fixed-Route Service

From the 1930's to 1961, fixed-route bus service was provided by Fresno City Lines, Inc., which was a private corporation. In 1961 the corporation sought to discontinue public transportation due to increasing deficits. The City of Fresno entered into a lease-purchase agreement with Fresno City Lines, Inc., in 1961, and established the City of Fresno as the operator of transit services in the Fresno metropolitan area. The early system configuration consisted of a modified radial pattern with all routes originating in the downtown area. This pattern remained essentially the same until 1977. During FY77, FAX instituted numerous changes which increased service to nearly all of the urbanized FCMA, the most significant being the implementation of a grid system consisting of 19 lines in place of the former 13 line radial system. The change was made possible by the purchase of 50 full-sized buses. Today FAX operates 18 routes on 10, 30, 45, and 60-minute headways. The system continues to be operated on a modified grid pattern with nine routes intersecting in downtown Fresno, six connecting at Manchester Transit Center, and seven making connections at The Market Place Shopping Center.

Demand-Responsive Service

Specialized transportation services for Fresno's elderly and disabled was started in 1967 by the West Fresno Federation, a non-profit corporation. The City provided increasing support to the program, and in 1975 assumed the service. In April 1977, FAX began operating Handy Ride service. Handy Ride operates as a generalized demand-responsive service for those who are unable to use the regular fixed-route service due to a disability. Handy Ride offers advanced reservation and limited subscription service to "ADA Certified" riders. Handy Ride "General" riders, riders who are not ADA Certified, are provided service if space is available only after all ADA advance appointments are scheduled for service. In order to effectively carry out the provisions of the Americans with Disabilities Act of 1990, FAX awarded the contract for Handy Ride service to Laidlaw (formerly Mayflower) Contract Service effective April 3, 1993. Service hours for Handy Ride mirror those of FAX fixed-route service, and same day reservations are allowed in order to comply with ADA regulations. FAX is in full compliance with the ADA and for a more detailed discussion of the ADA, refer to the Americans with Disabilities Act Section 2.3, or the FAX ADA Paratransit Service Plan Update in June 2003.

2.2.0 Bus Transit

FAX's service area population is shown on Table 2.1. The service area is consistent with the Planned Urbanized Area (PUA) of the Fresno County General Plan and represents the area planned for urban growth during the 20 year planning period. Within the PUA are the Cities of Fresno (2000 census population of 427,652) and Clovis (2000 census population of 68,468). The 2000 census population of the Fresno-Clovis Metropolitan Area (FCMA), an area slightly larger than the PUA, is 570,169 (Fresno COFCG). The FCMA contains 299 square miles; and a population of 628,655 (2000 Census) and the overall average population density is 3 persons/acre. In the more populated areas of the FCMA, the average density ranges from four to fifteen persons per acre.

Table 2.1
FCMA Population Trend

Year	Population	Source
1970	289,200	Decennial Census
1980	358,800	Decennial Census
1990	477,400	Decennial Census
2000	628,655	Decennial Census
2010	674,500	COG

2.2.1 Bus Services

The core bus routes which are operated by FAX and other service agencies are as follows;

City of Fresno

The City of Fresno, through FAX, provides two categories of public transportation service in the FCMA. First, the Transit Division provides fixed-route service for the general public seven days a week. And secondly, Handy Ride service, which is contracted through Laidlaw Contract Services, provides demand-responsive service seven days a week. Handy Ride generally serves those persons unable to use the regular fixed route bus service.

- **FAX Fixed Route** - The metropolitan area has developed north, west and east of the Central Business District (CBD). The Central Business District is the regional and local governmental center for federal, state, county, city and educational offices. In addition, the Community Hospital facility located on a 58 acre area bounded by McKenzie Ave., Fresno, Q, and Diana Streets in downtown Fresno is expanding. The CBD is a regional financial and legal center, as well as regional shopping center (Fulton Mall). The Convention Center, Community Hospital, two major hotels, various private office buildings, and the railroad and bus station are also located in this area. Nine of FAX's seventeen routes converge in the CBD. There are four other regional shopping centers located within the FCMA. They Include: Fresno Fashion Fair (First/Shaw), Manchester Center (Blackstone/Shields), Sierra Vista Mall in Clovis (Clovis/Shaw), and the Market Place at River Park (Blackstone/El Paso). While FAX operates service to all of these Centers, Manchester Center and the Market Place are major connection locations. Six routes converge at the Manchester Transit Center to form a major transfer point in Fresno's geographic center, and seven routes serve Market Place in north Fresno.

Other commercial land uses are spread throughout the FCMA with strip commercial concentrated along Shaw and Blackstone Avenues. Additional office commercial is located along Shaw Avenue, N. First Street and in the vicinity of the Fresno Yosemite International Airport (FYI). Significant residential and commercial development is underway in the Woodward Park community near the River Park Business Complex (Friant/Audubon) and Kaiser Permanente Hospital (First/Nees). The FAX network serves various high schools, colleges and universities as well as numerous parks and entertainment complexes. The FCMA population has a broad ethnic diversity, including a substantial Hispanic population and significant numbers of African American and Asian residents. In the 2000 Census, 8.0% of the population of the City of Fresno was described as African American, 11.1% as Asian or Pacific Islander, and 39.9% as Hispanic.

FAX operates on a modified grid system and provides service on fifteen transit corridors on weekdays and Saturdays and Sundays. The route system is composed nine lines that provide service in two directions to and from downtown and five cross-town lines. In 2004, FAX also introduced a free downtown trolley service which connects to parking, retail, and restaurants services in the downtown area. The system is designed to facilitate bus travel by making transfers convenient between intersecting lines and between ten lines which converge in the CBD. The FAX system map is shown in Exhibit 2.1.

- **Handy Ride Demand Response** - Handy Ride's service area is bounded by Copper to the north, Central Avenue to the south, Temperance Avenue to the east, and Polk Avenue to the west as identified in Exhibit 2.2. Handy Ride service is available to persons who, because of an impairment or disability, are unable to use Fresno Area Express fixed-route system. Population numbers developed for the FAX Americans with Disabilities Act Paratransit Service Plan indicate that the FCMA contains between 7,000 and 12,500 persons who would be eligible for paratransit service under these guidelines.

Fresno County

Fresno County reimburses FAX to partially offset operating costs for fixed-route and Handy Ride services in the unincorporated urbanized area. As of January 1, 2002, an estimated 45,000 unincorporated area residents lived within one-half mile of a FAX route. Fresno County also provides support for rural transit services as described below;

- **Fresno County Rural Transit Agency (FCRTA)** - In August 1979, a joint powers agency was created to coordinate and operate rural transit services in Fresno County. FCRTA, through contract providers or private carriers, provides intra-city and inter-city service to rural communities and downtown Fresno. Inter-city service to Fresno is provided via municipal providers and through Greyhound and Orange Belt Stages. The rural systems interface with FAX in downtown Fresno.
- **Consolidated Transportation Service Agency (CTSA)** - In 1980, the Council of Fresno County Governments (COFCG) adopted "Assembly Bill 120 Action Plan for Fresno County" (AB120, September 1979) to coordinate social service transportation in Fresno County. The Plan co-designates the City of Fresno and the Fresno County Economic Opportunities Commission (FCEOC) as the CTSA for the Fresno Metropolitan Area and the City of Clovis as the CTSA for the Clovis Urbanized Area. The Fresno County Rural Transit Agency and FCEOC are the co-designated CTSA for the rural area.

Social service transportation in the FCMA began in April 1983 and was initiated in the rural county area in May 1983. Services are provided through vehicle timesharing, ridesharing and consolidation and include those agencies and services listed on Exhibit 2.3.

- **Private Operators** - Inter-city bus service to the FCMA is provided by Abbey Charter, Greyhound Lines, Transportation Specialties, and Orange Belt Stages while Amtrak provides inter-city rail service. The FCMA is served by numerous private taxi companies and a dial-a-ride service providing shared-ride, demand-responsive service. Several non-profit agencies and private companies operate services designed to accommodate disabled riders. Exhibit 2.3 lists current public and private transportation providers in the FCMA.
- **Ridesharing** - The COFCG is responsible for administering the Program and retains a Rideshare Coordinator to implement the Program. The Rideshare Coordinator has been instrumental in developing an effective outreach program to major employers throughout Fresno County for providing match lists for both carpools and vanpools.

Exhibit 2.1
FAX Service Area

Exhibit 2.2
Handy Ride Service Area

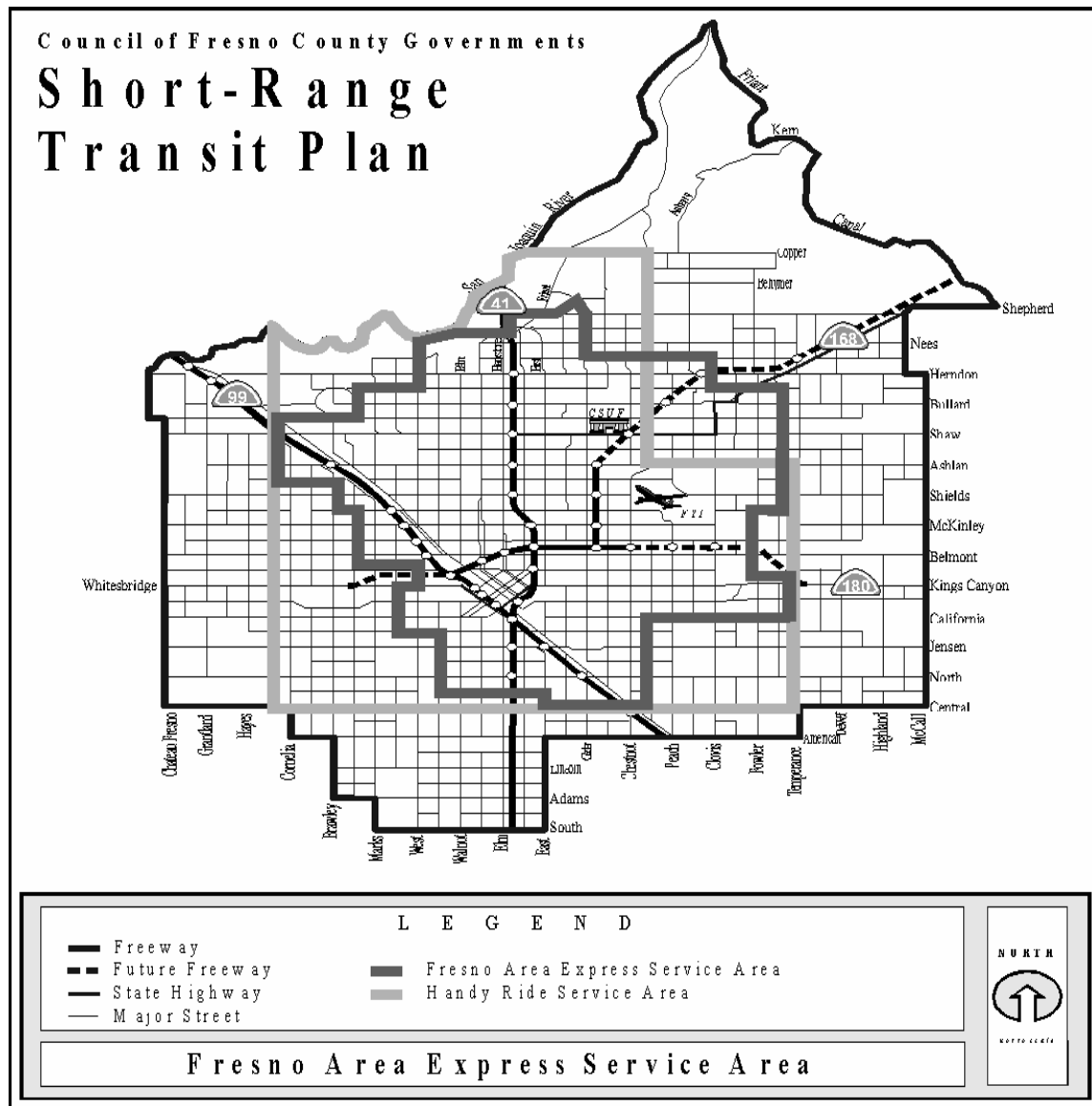


Exhibit 2.3
Service Providers in the FCMA – 2005

BUSLINES & VAN SERVICE

Clovis Roundup*
Clovis Stage Lines*
Fresno County Consolidated Transportation
Agency*
Fresno County Rural Transit Agency*
Fresno Handy Ride*
Fresno Area Express*
Greyhound Bus Lines
Transportation Specialties
Winnco Express Inc.

BUSES CHARTER & RENTAL

Golden Eagle Charter
VIA Adventures
Classic Charter
Best Tours
Laidlaw Contract Services
Cloud 8 Travel
Orange Belt Stages
Mundo Express
Ruiz Tours

**BUSES -- SCHOOL TRANSPORTATION
SERVICES**

Abbey School Bus Transportation
Laidlaw

DIAL-A-RIDE

Dial-A-Lift
Dial-A-Ride
Handicab
Fresno County Rural Transit Agency

AMBULANCE NON-EMERGENCY

American Ambulance
Fresno Transportation Company

TAXICABS

AAA Taxi Cab
ABC Yellow Cab
Abe's Yellow Cab
Ace Yellow Cab Co.
Aaby Yellow Cab
Aafast Yellow Cab
American Yellow Cab
A-1 Taxi Cab
ASAP 24-7 Any City Yellow Cab
Alpha Cab
Bulldog Cab Co.
California Cab
Casey's Yellow Cab
City Wide Yellow Cab
City Cab Company
Clovis City Cab Company
Clovis Yellow Cab
Express Transport
Faretta Cab Company
Fiesta Cab
Golden Express Taxi
Independent Checker Cab
Kiddie Cab
Liberty Cab
Mexico Cab
Royal Checker Cab Co.
Taxi Latino
Trans Mexico
Taxi Azteca
Taxi Fresno Indio.
Veteran's Cab Co.
Union Cab
United Cab Co
Yellow Cab
Yellow Cab A
Yellow Express
Yellow Diamond Cab

* Public Agency

Source: Pacific Bell Yellow Pages.

2.2.2 Bus Fleet

FAX- FAX's policy is to operate equipment which is suitable to the needs of the public, and is cost effective to operate and maintain. In making decisions regarding vehicle procurement, FAX considers passenger needs and comfort, standardization of parts and equipment, ease of operation and maintenance, and conformity to the latest clean air, accessibility and safety requirements.

FAX currently has an active fleet of 114 vehicles, which includes 25 Orion Compressed Natural Gas buses which were delivered in the summer of 2003. In addition, all FAX buses are low floor buses, which are outfitted with ramps that are much easier to maneuver than traditional lifts. The low floor buses also have the ability to lower or kneel to reduce the angle of the ramp. In March 2001, FAX received two Hybrid Electric Buses which, were placed into service on April 1, 2001. These buses are an interim technology to fuel cell or zero emission buses and provide emission reductions which are comparable to an alternate fuel bus. In 2005, FAX anticipates delivery of two gasoline hybrid buses which will also showcase FAX's commitment to cleaner vehicles and cleaner environment.

FAX also has four (4) Ford Econoline vans, two (2) of which are used for the Fresno Area Neighborhood Service (FANS) circulator route in the southeast part of the City. FAX's next major order of 12 standard CNG 40' buses to be provided by New Flyer buses, are anticipated to arrive in 2005. Overall, FAX's fleet is projected to increase to 139 buses by FY10. See Appendix C.

All new buses meet the accessibility requirements of the Americans with Disabilities Act (ADA), the standards mandated by the Federal Clean Air Act (CAA), the California Air Resources Board (CARB) exhaust emissions standards, the Federal Transit Administration (FTA) First Article Bus Durability Tests and the California Highway Patrol (CHP). Buses in the active fleet operate an average of 45,000 miles annually. An inventory of the current bus fleet is presented in Table 2.2. Bus replacement needs are detailed in Chapter 4 of this document.

Table 2.2
FAX Fleet Inventory

#	Make	Model	Year	Comments
25	Orion	CNG	2003	40' Lift Equipped
2	Orion	HybriDrive	2000	40' Hybrid Electric
12	Gillig	Phantom	1999	40' Low Floor
14	Gillig	Phantom	1997	40' Lift Equipped
6	Gillig	Phantom	1996	40' Lift Equipped
12	Gillig	Phantom	1994	40' Lift Equipped
20	Gillig	Phantom	1993	40' Lift Equipped
12	Gillig	Phantom	1991	40' Lift Equipped
11	Flexible	4102GT	1990	40' Lift Equipped
114	Total Active Fleet			

Handy Ride- Handy Ride offers demand-responsive, curb-to-curb service seven days a week during the same hours as the Fixed-Route service. Handy Ride service is provided throughout the service area covered by the Fixed-Route, and additionally extends out 3/4 mile further than FAX routes. The current service area is bounded by Copper to the north, Central Avenue to the south, Temperance Avenue to the east, and Polk Avenue to the west. The requests for service are accepted on a previous day basis for ADA Certified City of Fresno residents and visitors, and on the same day, if space is available, for ADA and Handy Ride general passengers. Since April 1993, a contract was awarded to Laidlaw Contract Services for the provision of the Handy Ride service. FAX monitors Laidlaw in order to assure compliance with the city contract and with the ADA. Handy Ride's fleet is composed of 30 wheelchair lift-equipped mini-buses operated and maintained by Laidlaw Contract Services and will increase to 45 vehicles by FY10. See Appendix D.

2.3.0 Accessible Transit Service

FAX's ADA Advisory Committee advises FAX staff on accessibility issues for all transit services, facilities and programs. This section describes existing accessible transit and paratransit services and addresses FAX's implementation of the Americans with Disabilities Act (ADA).

2.3.1 Americans with Disabilities Act

The Americans with Disabilities Act (ADA) was signed into law on July 26, 1990. FAX implemented key ADA requirements and compliance regulations issued by the U.S. Department of Transportation (DOT) and the Architectural and Transportation Barriers Compliance Board as described below:

- *All newly constructed transit facilities such as bus stops and transit centers must meet ADA accessibility design guidelines.* The renovation of the Manchester Transit Center in 2001 helped to meet the standards. Over the last year new bus stop signs which meet the standard have been installed Citywide, and FAX has improved over 570 bus benches and 190 shelters to meet ADA requirements.
- *All procurement of bus vehicles must meet the ADA accessibility design guidelines.* FAX has procured over 100 buses since 1992 that meet ADA standards. All future vehicle procurement will meet the standards, including recently received Hybrid Electric buses, Vans and Clean Fuel buses.
- *Information distributed to the public is also required to be made available in accessible formats, such as audio cassettes, discs, large print, via telephone etc.* FAX has prepared and distributed a video which highlights FAX fixed route services. This video provides passengers with relevant information on the FAX system and is made available to the public upon request.
- *As an operator of a fixed route service, FAX is required to provide complimentary paratransit services.* A combination of accessible fixed route transit service and paratransit services are provided for the transportation needs of individuals with disabilities and senior citizens.

The FAX ADA Paratransit Service Plan and subsequent updates have been adopted by the Fresno City Council and approved by the FTA. The Paratransit Service Plan addresses FAX's responsibilities under the ADA for both fixed-route and demand-responsive service. The FAX Complementary paratransit service has been in complete compliance with federal requirements since 1995.

Among other things, these mandated changes required FAX to expand Handy Ride hours of service to match those of FAX fixed-route service, and as a result, FAX has implemented a same day advanced reservations for ADA certified City of Fresno residents and visitors.

2.3.2 Accessible Bus Service

FAX designated all buses as accessible effective July 1, 1997. All of FAX's buses are equipped with devices to secure a wheelchair or other mobility devices and with lifts for boarding passengers using common mobility devices. Buses purchased since 1993 are equipped with automatic announcements to assist passengers with visual impairments. The announcements are activated when the doors are opened and provide information on the route number and destination

FAX has adopted standard operating policies and procedures for compliance with ADA which include the following: regular maintenance and prompt repair of accessibility equipment; providing assistance with boarding; calling out bus stops and stations; providing alternative transportation if a passenger cannot be boarded because of failure of accessibility equipment; allowances for service animals; and specialized training for operators.

2.3.3 ADA Paratransit Services

Paratransit service is a specialized form of transportation operated for people, who, because of their disabilities cannot use conventional public transit service. As an operator of a fixed route bus service, FAX is required under ADA to ensure that paratransit service is provided to eligible individuals with disabilities. The level of service provided must be comparable in terms of hours of service and area served to the service provided through the fixed route bus system. Since 1990, FAX has been in full compliance with ADA paratransit provisions.

FAX - FAX contracts for paratransit services with Laidlaw. Eligible riders call Laidlaw to schedule their trips and Laidlaw provides the trips accordingly. Laidlaw also provides subscription trips according to policies developed and adopted by FAX.

In FY04, FAX's annual operating budget for Laidlaw was \$2.7 million. Laidlaw provided almost 170,000 paratransit trips during this period, which included over 15,000 taxi trips during this period. Laidlaw's operating budget for FY05 is \$2.9 million with an increase in service demand estimated at close to 200,000 passenger trips to be provided.

2.4.0 Transit Maintenance Program

FAX takes a functional approach to the maintenance and servicing of all vehicles, equipment, and facilities, and emphasizes preventative maintenance, comprehensive inspections and overall efficiency and cost effectiveness to ensure reliable and safe transit service.

The mission of FAX's Maintenance Division is to provide clean, reliable, safe and well maintained vehicles, equipment, and facilities through the efforts of a competent and committed work force using modern facilities, tools and equipment. The purpose of FAX's Maintenance Plan is to provide consistent, systematic and integrated program guidance that will enable the Maintenance Division to properly maintain and service the assigned vehicles, equipment and facilities in support of revenue operation. Policies of the Maintenance Division reflect the following:

- Standardized procedures and practices;
- Compliance with all applicable regulatory requirements;
- An effective maintenance program.

Key components of FAX's current Transit Maintenance Program are as follows:

- A comprehensive bus vehicle maintenance program that includes daily maintenance.
- An aggressive preventative maintenance and component change out program.
- A running repair procedure to avoid removing vehicles from service.
- A centralized overhaul and repair program.
- A new maintenance management system.

Maintenance Program

The following maintenance functions are described below:

- Bus Maintenance
- Facilities Maintenance

Bus Maintenance

Components of FAX's Bus Maintenance program are as follows:

Daily Servicing - Daily servicing items include the following:

- Vault pull
- Driver defect card analysis
- Fuel island servicing
- Interior/exterior cleaning
- Seat and window cleaning/replacement

Preventative Maintenance - Regular maintenance is performed at prescheduled cycles to ensure optimal performance, efficiency, safety and reliability of assigned equipment. Preventative maintenance inspections are performed within four hundred miles of scheduled cycles. Table 2.3 shows FAX's Preventative Maintenance cycles.

Table 2.3
FAX Maintenance Schedule

P.M.Type	Inspection	Cycle	Within
Minor/safety	A	3,000 miles	+/- 400 miles
Intermediate	B	12,000/14,000 miles	+1,000/-400 miles
Intermediate	C	18,000/21,000 miles	+1,000/-400 miles
Major	D	24,000/28,000 miles	+1,000/-400 miles
Special Service	Winter	Seasonal	
	Summer	Seasonal	

Note: Services vary by mile ranges depending upon warranty and manufacturer's requirements.

Running Repair/Corrective Maintenance - This establishes a procedure to repair items identified by operators during the daily operation of a bus. These repairs are usually completed without removing or withholding a vehicle from normal service. Maintenance repairs or actions for road calls are documented in the fleet information system to assure that proper corrections are made, to provide for consideration of fleet inspections, and to modify the Preventative Maintenance Program, as needed.

Scheduled Component Change Out - FAX's component change out program is based on manufacturer's recommendations, failure history and failure analysis. Designated components are tracked and monitored to ensure that the program is efficient and cost effective. This program allows for the preparation of complete standardized kits with standardized replacement practices for improved efficiency.

Overhaul and Repair Program - The O & R Program is a centralized maintenance program which includes paint and body repair, upholstery, farebox repair, component overhaul, and heavy repair/rebuild of engines and other components.

Facilities Maintenance

FAX's Facilities Maintenance includes overall environmental regulatory record keeping and oversight; hazardous waste disposal and manifests; timely and reliable maintenance, preventative maintenance, inspections, repair and servicing of FAX's communication system, buildings, shelters, grounds, bus stops and related equipment.

FAX's maintenance facility consists of 49,000 square feet and can accommodate up to 150 buses. However, limited bus parking space has prevented this facility from serving more than 100 buses. The Maintenance Division provides standard bus maintenance and has facilities for body work, painting, welding, machine tooling, and air conditioning. Since the facility enables FAX to perform nearly all maintenance work in-house, reliability of the fleet maintenance is ensured.

In FY04, FAX's service level required approximately 95,000 gallons of diesel fuel per month and an additional 25,000 gallons of CNG fuel per month. FAX has four underground diesel fuel storage tanks each providing 19,500 gallons of capacity. Approximately 23 days of service could be provided with the existing fuel storage capacity. FAX is in the process of installing a CNG which will over 30,000 gallons of CNG fuel per month for the 28 existing CNG buses and 12 additional CNG buses to be delivered in 2005.

Handy Ride - Handy Ride maintains a total of thirty vans and 7 sedans which are maintained and serviced by Laidlaw. The preventative maintenance schedule for Handy Ride vehicles include a regular tune-up of vehicles to ensure that the maximum performance and fuel economy are obtained. Gasoline tune-ups are performed at 12 months or 24,000km/15,000 mile intervals. Additional vehicle components such as brakes and oil filters are changed at various intervals according to Laidlaw's certified inspection interval and procedures maintenance plan.

2.5.0 Transit Passenger Facilities

This section describes FAX's passenger facilities including transit centers, transit stop improvements and amenities. It also addresses actions to improve operations and passenger convenience as part of FAX's goal to enhance customer focus and improve mobility and access.

2.5.1 Transit Improvements and Amenities

FAX

Bus Stop Accessibility - FAX maintains one transfer center at Manchester Mall and three additional transfer centers in the downtown area, all within the City of Fresno. The transfer centers are safe and convenient facilities for bus to bus transfers as well as for inter-modal passenger transfers. Due to age and usage, periodic rehabilitation of FAX's transit amenities have been necessary to maintain them in an attractive, safe and functional condition. Examples of rehabilitation needs include sidewalk repair, painting and repair of structures, and replacement of benches and trash receptacles. Minor enhancements planned in conjunction with rehabilitation include upgrading of information signage, security lighting, and bicycle accommodations. In 2002, the Manchester Center was improved and upgraded to accommodate more client service.

In addition, FAX has more than 2,000 bus stops which need to be maintained. An ongoing transit stop improvement program provides convenient passenger access and assures safe operation of transit service. Passenger amenities such as shelters, benches, information signs, and trash receptacles are provided at many transit stops. Transit stop improvements are provided by FAX and by private developers as conditions of project approval by the City.

Bus Stop Accessibility Improvements - To assure compliance with ADA, FAX established a program to construct passenger waiting pads, sidewalk extensions, and wheelchair curb ramps where needed. These bus stop improvements benefit transit operations by improving the efficiency of boardings by disabled patrons and reducing the need for ADA paratransit trips. These improvements also provide improved accessibility to non-disabled transit riders. In addition, it should be noted that these improvements are the responsibility of the City of Fresno and not the Transit operator.

Bus Stop Shelter Program - FAX shelter's are designed to include a brown frame with a dome, lighting for security, a bus bench and trash receptacle. Design and placement of shelters complies with ADA guidelines. FAX inspects, cleans and maintains shelters as required. Since 2003, FAX has been in the process of replacing as many of its 500 shelters as funding will allow. FAX also works closely with the community in providing shelter service and has allowed one of the local high schools to paint the bus shelter with their school colors.

Transit Stop and Information Signs - FAX maintains over 2,000 bus stop information signs throughout the service area. Since 1999, FAX replaced most of its bus stop signs with more customer friendly informational signs.

Bus Stop Amenities - Benches are provided at over 500 bus stops for the comfort of waiting passengers, and are often provided at bus stops with concentrations of elderly and mobility impaired patrons. Benches are installed based on passenger request, ridership and acceptable site

conditions, although the current bench program consists primarily of replacement of old or damaged benches. In FY05, FAX will continue to replace as many of the 200 benches as funding will allow throughout the service area.

Bikes on Transit - In 1997, FAX installed bike racks on all fixed route buses. The “Bikes on the Bus Program” significantly enhanced mobility and access for cyclists in the Fresno City area and helped to increase transit ridership by creating a new ridership market. Beginning in 2004, FAX has installed bike racks which will hold three bikes at a time. To date, all FAX buses have bike racks which can only hold two bicycles at a time. It is anticipated that all FAX buses will have the new bike racks installed within the next two years.

2.6.0 Fare Structure

As part of FAX's Strategic Goal to provide affordable fares, FAX has not requested a fare increase since 1991. However, in FY02, FAX initiated a fare increase of it's regular one way fare from the current \$.75 to \$1.00 which became effective in August 2002. FAX did however retain the Senior/Disabled one way fare at \$.35. Beginning in 2005, FAX introduced the Metro Pass, which allows passengers access to unlimited use of the FAX and Clovis fixed route systems. See Table 2.4 for Fare Structure.

Table 2.4
FAX Fare Structure

Fare Category	Adult Fare FAX	Adult Fare HANDY RIDE
Single Ride/Express single ride	\$1.00/\$1.25	\$1.00
Token/10 Tokens	\$.85/\$8.50	N/A
Metro Pass	\$40.00	N/A
Monthly Pass	\$35.00	N/A
*Half month pass	*\$17.50	\$25.00
	Senior/Disabled Fare FAX	Senior/Disabled Fare HANDY RIDE
Single Ride	\$.35	\$.75
Monthly pass	\$10.00	\$10.00

* The FAX Half month pass is available after on the 15th day of each month

The FAX Metro Pass is for use on FAX and Clovis Stageline services

Note: FAX fare increase became effective August 1, 2002.

2.7.0 Customer Services

FAX has made a commitment to provide high quality service, and to portray a positive image of FAX, Handy Ride and public transit in general by providing customer services described below:

2.7.1 World Wide Web

FAX as part of the City of Fresno maintains a World Wide Web page on the Internet (<http://www.ci.fresno.ca.us>) which includes maps and schedules of the transit system.

2.7.2 Public Information Programs

Public information is the cornerstone of a successful transit system. FAX's public image has been enhanced and shaped by a focus on accuracy and consistency of message. Described below are various information services and programs FAX offers to meet the needs of our customers.

Information Services - FAX provides transit information and trip planning services by phone, through mail or in person. FAX's maps and schedule guides are available in over 30 locations citywide. In FY 2004, FAX introduced the 621-RIDE number which provides easier access for passengers to all FAX services. FAX has installed announcements on all buses which provides passengers with bus stop locations and times while on the buses. FAX has also installed On Street Display at the MTC and Downtown Shelters which provides actual real arrival and departure times for all routes while passengers are waiting for instant assurance that they have not missed their bus.

Manchester Information Center - FAX operates a walk-up Customer Service Center at the Main Office west of the downtown area and at Manchester Mall in central Fresno. The center allows customers to receive personalized trip planning, pick up schedules, purchase passes and tickets, retrieve items from the lost and found or even register a passenger suggestion or complaint.

Downtown Information Center - FAX is also in the process of leasing space in the Downtown area for a customer service office. The office which is located near the Downtown shelters will provide passengers with access to FAX services such as route information, trip planning, a pass outlet, Lost and Found office, and other customer related issues.

Outreach and Partnership Programs - FAX provides public outreach to various social service groups in the area including Senior groups, Students and new immigrants in an attempt to familiarize citizens with the advantages of using transit. In FY04, FAX staff attended over 20 different events in the community. Staff provided these public groups with information on how to use public transit, how to read schedules and maps, and about the role transit plays in protecting the environment.

Multi-cultural Marketing Programs - FAX provides bilingual materials and use of bilingual advertisements to reach, educate, and promote ridership among the multi-cultural communities. In a July 2004 customer satisfaction survey conducted by AIS Research determined that over 45% of FAX passengers were from the multi-cultural community.

Employer Services Program - FAX's employer services program is designed to benefit local employers by increasing awareness and interest in FAX services. Among the services offered are free informational and promotional materials, on site promotions, trip planning assistance, as well as

a new vanpool program for downtown employees. FAX also provides service to several major employers in the area and continues to seek ways to encourage Single Occupant Vehicle riders to consider alternative transportation choices.

Media Relations - FAX interacts as needed with local media to promote existing and new services, programs and issues involving transit. Information is provided in English, and Spanish, and is designed to provide general awareness of FAX to both the media and the public alike.

2.7.3 Transit Security Program

FAX customers value safety and security when using the transit system and addresses these concerns:

Transit Security Plan - FAX security plan provides a highly visible security presence for our transit customers and employees. FAX uses City of Fresno police officers to deliver system wide protection. Our customers see uniformed patrol officers on buses and at transit facilities. As a result of the police presence, passengers feel safer, and public property has been protected from vandalism and graffiti. Since the introduction of the police officers, the number of crimes has been reduced.

Video Surveillance System - In an effort to prevent graffiti and vandalism on buses, FAX identified the need for an On Board Video Surveillance program. It is believed that the presence of the video surveillance cameras serve as a deterrent to vandalism and other crimes.

2.7.4 Special Community Services

FAX considers itself a good neighbor and a vital part of the community we serve. The following programs illustrate steps FAX has taken to give more than just transit services to the community;

Project Safeplace - FAX is leading the nation in transit properties for the number of youth who have taken advantage of the Safeplace Program. The program is a national partnership of community organizations, schools and neighborhood businesses that provide Safeplace designated locations for children and runaways who may be exposed to crime and exploitation. Each one of FAX's 114 buses is a designated Safeplace, and since the inception of the program, over 300 youth have been assisted through the program. In FY04, FAX was awarded the National Safeplace Award for its local bus Safeplace Program, which was received at the National Safeplace Conference in Kentucky.

Bus Interior Public Service - In an effort to work more closely with the non-profit community, FAX provides space within the buses for various organizations to provide information at no charge. During FY04, over 20 different agencies used this service to provide information regarding social services such as Narcotics Anonymous, Girl Scouts of America, and the Workforce Development Department.

Clean Fuels Program – FAX has been very involved in converting its fleet to cleaner burning fuels in an attempt to attain maximum efficiencies and to protect the environment. As part of its overall fleet FAX has 25 CNG buses with 12 more to be delivered in 2005, 2 hybrid electric buses, 3 CNG trolleys with three on order, and 62 vehicles being converted with aftermarket Cleaire kits which will reduce Nox emissions by 30% and PM10 by 90%. FAX has also ordered two gasoline hybrids and is in the process of completing an on site CNG fueling station which will provide fuel for the entire fleet. The City of Fresno's aggressive approach to clean air was awarded by the National Clean Cities Program as the Fleet of the Year confirming FAX's commitment to the community.

2.8.0 Integration of Transportation and Land Use

Continuing growth in the FCMA over the past decade has led to increasing traffic and air quality concerns, and has elevated the role of efficient land use planning and its relationships to transportation. Land use determines commute patterns by influencing where people live and work and what convenient means of transportation are available to them to travel between these two points. The sprawling leap frog development patterns that have characterized the growth in Fresno have placed increased pressure on the roadway system and has reduced the convenience of alternate options, such as transit, bicycling and walking. The transportation system also shapes land use patterns as development tends to occur along major transportation corridors. A key effort in achieving this goal is the City of Fresno's General Plan update which was adopted in 2003. Implicit in this document is a section on transportation and land use strategies to create better communities with multiple transportation choices such as Transit Oriented Developments (TOD's) and Pedestrian Oriented Developments (POD's).

FAX has no direct control over land use decisions. Land use policy rests with the cities and County. However, in 2002 FAX updated its Long Range Transit Master Plan which provided two strategies for encouraging growth around transit stops and stations. One of the two scenarios envisaged is a Productivity-oriented system designed to run high quality service where demand is high, and little or no service where demand is low. However, since transit is a public service paid by all taxpayers, the Productivity goal must be balanced against its opposite, the need to provide benefit to everyone, which is the purpose of the Coverage system. Coverage-oriented service penetrates parts of the community where transit cannot expect to operate with high productivity, either due to low densities of a built environment that is unsafe and unpleasant for pedestrians. Transit exists to serve a diverse range of purposes, including community goals for environmental quality, redevelopment, and mobility for people who cannot drive, among many others. FAX has intended to strike a balance between the two systems over the last few years, but continues to seek an optimal system.

More recently, FAX is in the process of undertaking a Regional Public Transportation Infrastructure Study with the purpose of defining a countywide public transportation system that maximizes personal mobility by providing functional access to work, education, health care, recreation and other essential services for all county residents. The project will also focus on identifying ways to reduce vehicle miles traveled, improve air quality, and identify alternatives to the private automobile. The final plan should provide some strategies for a countywide transportation system that will be sustainable over a 50 year horizon. This study is being undertaken by a dynamic mix of firms and should be completed in 2006.

2.8.1 Development Review Program

The City of Fresno has a Development Review Committee which reviews all significant projects. Under this program, the City refers proposed new development projects to FAX for comment during the approval process. After comprehensive review, FAX submits recommendations for project conditions or mitigation measures to the City/County. The intent of the Development Review Board is to ensure compatibility between the transportation system and the development project. FAX reviews over 100 development submittals from the City per year and as a result has been essential in ensuring the construction of numerous transit related and transit friendly improvements by the private sector, such as new bus stops, bicycle and pedestrian pathways and street improvements. FAX continues to be involved in major project development at Copper River and Fancher Creek to ensure that transportation issues are given the fullest consideration.

Transit Service Improvement Program

3.1.0 Introduction

FAX's Strategic Goals reflects a strong commitment to making transit a more attractive option for travelers within the FCMA. To achieve these goals, FAX plans some significant investments in system improvements. The fast growing population and employment base of the Valley has resulted in a tremendous need for additional transit services. FAX is responding to this need through an ambitious expansion plan with innovative programs and improvements to our existing services. However, in order to achieve the level of service improvements needed, FAX has to mitigate for the array of Federal, State and locally-mandated programs and priorities including air quality, energy, congestion management, Welfare Reform, and alternative fuels. The need for additional transit funding to provide FAX the flexibility to not only conform with mandated requirements, but also to improve the quality of service and initiate progressive transit measures is crucial. The following provides an overview of these areas which will ultimately impact FAX over the next five years and beyond.

Air Quality - Modifying travel demand is an increasingly important issue for the future, both in terms of congestion management and modifying travel demand. Current financial, energy, and environmental resources are overburdened, and the seriousness of this region's air quality problems may lead to implementation of more stringent measures to reduce future vehicle travel. Public transit will continue to play a major role in any proposed transportation systems management activities which are undertaken. This makes it critically important that the state and federal governments continue at least their present level of resource allocation to support local transit programs.

The Federal Clean Air Act Amendments of 1990 (FCAAA) placed tough requirements on the sources and causes of air pollution in areas which fail to meet federal air quality standards, such as the San Joaquin Valley. The Amendments require substantial reductions from all pollution sources, including transportation, and established a strengthened conformity requirement to ensure that these reductions are achieved. The term "air quality conformity" refers to the process whereby transportation plans, programs and projects are shown to conform to the requirements of the Clean Air Act Amendments and applicable State implementation Plan (SIP).

The California Air Resources Board (CARB) has designated the entire San Joaquin Valley a no attainment area with respect for the National Ambient Air Quality Standards for ozone and PM10. Carbon monoxide (CO) has been a problem in the past, but the FCMA was re-designated in attainment in 1998. This makes it critically important that the state and federal governments continue at least their present level of resource allocation to support local transit programs.

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in 1998. This makes it critically important that the state and federal governments continue at least their present level of resource allocation to support local transit programs.

Federal Requirements - Federal and state legislation requires an integrated transportation/air quality planning process. The FCAAA reaffirmed that all areas have to attain the National Ambient Air Quality Standards. The Amendments called for implementation of all reasonably available control measures to reduce air pollution levels. Numerous specific reductions of emissions and an aggressive attainment time frame were required. Although the Air District is responsible for implementing most Federal Clean Air Act requirements, the Metropolitan Planning Organization is responsible for the development and implementation of transportation control measures and conformity. Further, the FCAAA states that highway and sewer funding sanctions can be imposed on those areas which do not meet the applicable air quality standards.

Charter Service - On August 11, 1987, FAX discontinued operation of its charter service as mandated by FTA. On April 13, 1987, FTA issued charter service regulations which prohibited public transit operators from utilizing federally-funded equipment or facilities for charter service if there are any willing and able private charter operators available. FAX, however, may provide charter service if it qualifies for one or more of the exceptions stated in Federal Register 49 CFR Section 604.9(b), as follows:

- If there are no willing and able private charter operators.
- If the private charter operator enters into a contract agreement with FAX to provide service because the private charter operator does not have the vehicle capacity or is unable to provide accessible equipment to elderly and disabled persons itself.
- If a private charter operator is unable to provide service for special events. Privatization of Transit Services - Federal Policy: The Federal Transit Administration (FTA) rescinded its guidance on private enterprise participation on May 26, 1994. The previous guidance had been in effect since October 22, 1984, and was designed to provide guidance to FAX and the Council of Fresno County Governments for developing and documenting the local process for considering private sector participation in the public transportation process.

Local Policy: FAX's "Private Sector Participation Policy" was developed in response to FTA guidance which had required FTA grantees to use a "locally developed process" for consideration of private enterprise participation. This policy was adopted by the Fresno City Council on July 31, 1986 as an integral part of the "Short Range Transit Plan". The Council of Fresno County Governments also developed a separate private sector participation policy which was adopted by the Policy Board on September 24, 1987. The local policy has been amended to reflect changes at the federal level.

State Requirements - The California Legislature passed a bill, known as the California Clean Air Act. The passage of this bill was partly in response to Congress' inability to reenact/amend the federal legislation. From a transportation perspective, the bill requires Air Pollution Control Districts to adopt and implement regulations to reduce emissions from indirect and area wide sources and to encourage mobile source strategies and transportation control measures (TCM) such as ridesharing, vanpooling, flexible work hours, and increased multi-passenger trips through mass transit or other measures in order to reduce vehicle usage. These adopted transportation control measures can be enforceable.

State legislation was passed during FY91 which allowed the formation of an eight-county San Joaquin Valley Air Pollution Control District (SJVAPCD). The eight counties are Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare. The SJVAPCD represents a centralized agency responsible for developing and enforcing pollution controls spanning the entire valley. As proposed, Fresno County's Clean Air Plan has been integrated into a unified Air Quality Attainment Plan for the Valley. Ultimately, the role of mass transit will be reflected in this plan and will become an important factor in alleviating traffic congestion and improving air quality.

Local Programs - One program is from AB2766 which allows air districts to levy a four dollar annual fee on all motor vehicles registered within the district. The revenue from these fees are allocated by Air Pollution Control Districts to fund qualifying air quality improvement projects. These funds, however, must be used "to reduce air pollution from motor vehicles and to carry out related planning, monitoring, enforcement and technical studies necessary for implementation of the California Clean Air Act of 1990". In the past, programs such as auto buy-back, heavy duty vehicle incentive for cleaner engines, vehicle exhaust smoke monitoring and related TCM's have been funded. In FY2004, FAX received \$37,500 in funding for a vanpool bus pass subsidy program. FAX was also able to acquire funding in the amount of \$32,000 for the vanpool program from the Valley UCAN organization, which is involved in providing funding to agencies who undertake programs that clean the air.

With the chaptering of AB 2419 (Bowler), Fresno County's Congestion Management Program became optional if local agencies decided to exempt themselves from Congestion Management Program (CMP) requirements. In November, 1996, the state CMP requirements were suspended for Fresno County either until such time that it is determined that the state CMP is required to fulfill federal Congestion Management System (CMS) requirements.

Federal Congestion Management System - Fresno County's Congestion Management System was developed to fulfill legislative requirements that the planning process in Transportation Management Areas (TMA) include a CMS. This means that Federal funds may not be programmed for carbon monoxide and/or ozone nonattainment TMA for any highway project that will result in a significant increase in single-occupant-vehicle (SOV) capacity unless the project is based on an approved CMS. Fresno County is designated as a nonattainment TMA for both PM¹⁰ and ozone and as such is required to follow both planning regulations.

Need for Additional Transit Funding - The key problem facing all transportation modes is still the lack of available financing. For public transportation, both service enhancement and ongoing operations and maintenance funding issues remain. Traditional sources of transit funding even when augmented by a locally approved 1/4 percent sales tax, are inadequate to meet identified public transportation needs within the FCMA. Other sources such as the SJVAPCD Remove grants and Moyer funds, and Petroleum Escrow Violation Account (PEVA) funds continue to be pursued. While these sources may provide some onetime capital or short-term project demonstration funds, necessary ongoing operating revenues must be obtained if public transportation is to meet the goals outlined in the Regional Transportation Plan.

The financial outlook assumes stable revenue sources over the next five years. Any significant unanticipated decline in this revenue stream likely would result in reduced levels of service to the community or increases in fares to offset any deficits.

Transportation Equity Act for the 21st Century- The Transportation Equity Act for the 21st Century (TEA 21) bill was signed into law in 1998 and provided funding until 2004. The reauthorization of TEA 21 is set for 2005 and could authorize upwards of \$300 billion in highway funding. The amount of funding authorized for transit is yet to be determined and it is anticipated that an increase in transit funding will be authorized from the \$41 billion in 1998.

TEA 21 generally preserves ISTEA's transportation planning process, with its emphasis on federal-state-local cooperation, public participation, and a significant role for Metropolitan Planning Organizations (MPO) (Section 3004). ISTEA's 15 specific planning factors are replaced with seven general factors, and the MPO's are directed to provide for consideration of projects and strategies that:

- Support the economic vitality of the metropolitan area;
- Increase safety and security;
- Increase accessibility and mobility options for people and freight;
- Protect the environment, conserve energy, and improve quality of life;
- Enhance integration and connectivity of the transportation system;
- Promote efficiency; and
- Emphasize preservation of the existing transportation system.

In addition, provisions of TEA 21's Highway Title also affect transit planning. Section 1308 requires DOT to eliminate ISTEA's Major Investment Studies (MIS) as a separated requirement and to issue regulations integrating the requirement, as appropriate, into the planning process for highway and transit projects.

Dedicated Local Support - Measure C is a significant milestone for transportation in Fresno County and has provided funding for transit operations. However, whether Measure C funds are provided for FAX or used entirely for streets and roads work remains at the discretion of the Fresno City Council. For instance, FAX has not received any Measure C support for Fiscal FY98-99, FY99-00, or FY00-01. In addition, a Measure C reauthorization plan was not approved by the electorate in 2002. This funding source expires in 2007 and will be up for reauthorization again in 2006 and if not approved, may not allow FAX to expand any routes or services in the near future.

In addition, one of the difficulties which face local public transportation operators is continually having to seek financial support. The ability to provide consistent and dependable levels of service becomes extremely difficult when funding mechanisms vary from year to year. Transit ridership and the ability to increase farebox revenues is directly related to transit's ability to provide service on a consistent basis. In order to accomplish this fundamental task, it will be necessary to develop continued and reliable transit support.

To date, the Measure C Steering Committee has recommended Mass Transit for funding in the event the Measure is reauthorized in 2005. The Committee has identified transit as a significant source for mobile source emission reductions and is encouraging a Measure C allocation for transit through the local sales tax. This Measure would apply for a 30 year period and would guarantee funding for that period of time. The existing Plan will provide funding until 2006, but unless the Plan is re-authorized by the public, a significant amount of revenue will no longer be available for future local transportation projects.

3.2.0 Improvement Program for Current Service

In order to achieve the goal of maintaining financial stability, FAX must continuously seek improvements in service productivity and cost effectiveness. Since the majority of FAX's budget is spent to provide service on the street, it is critical that service be regularly monitored to ensure these resources are being utilized to the fullest extent possible. FAX has addressed system productivity by instituting an ongoing program of service evaluation to identify inefficient use of resources and respond with corrective measures. To address cost effectiveness, FAX has instituted programs to reduce operating costs and help achieve the highest fare box revenue return as possible. The TDA requires FAX to meet a 20% farebox, and in FY04, FAX exceeded this requirement with a 28% farebox return.

In addition, transit service as a means of reducing air emissions has been much debated over the years with and the results vary considerably, but several points are worth noting: (1) older, diesel buses do not seem to provide an emissions benefit; (2) with improved technology in future years, buses need to carry more passengers to offset the improvements in passenger vehicle emissions, and (3) the passengers must not be transit dependent to achieve an emissions benefit.

Transit serves an essential social need and is necessary for many transit-dependent residents. As Fresno Area Express (FAX) and other transit agencies work to convert their diesel fleet to compressed natural gas (CNG), we will definitely see an improvement over current air quality emissions. Current CNG standards and emissions, including in-use testing, show emission benefits over diesel engines. However, justifying bus transit versus light-duty vehicles as "key" to solving our air quality problems is somewhat difficult to justify, given the average number of non-transit dependent passengers that would need to be on each bus. Nonetheless it is one of the pieces of the clean-air puzzle we will pursue, with sufficient and appropriate ridership to be sought.

Ozone is formed by a reaction of sunlight, NO_x, and Reactive Organic Gases (ROG). Buses typically have lower ROG emissions, which would lower the number of passengers necessary to see an emissions benefit.

However, NO_x emissions were used for several reasons:

Due to the cursory review of the topic last month, it was more efficient to focus on one pollutant. Pollutant interactions make the analysis more complex with a greater time requirement. Most of the recommended calculations and funding programs for bus and heavy-duty diesel engines, including Carl Moyer and the Congestion Mitigation and Air Quality (CMAQ) program, focus primarily on NO_x and Particulate Matter (PM₁₀) emissions. Emission factors for ROG are not usually provided. NO_x is considered by the San Joaquin Valley Air District to be a "keystone pollutant". While ROG is primarily a concern with ozone in the summer months, Knox is a significant precursor to ozone in the summer and particulate matter (PM₁₀ and PM_{2.5}) during the fall and winter. Therefore, equal weighting of both pollutants does not take into account the unequal contribution to annual air pollution. Direct comparisons of PM₁₀ emissions may not represent the true health risk and contributions to air quality. Higher health risks are associated with diesel PM₁₀. ARB has listed Diesel Exhaust PM₁₀ as a toxic air contaminant; in fact, Diesel Exhaust PM₁₀ is believed to represent over 70% of the ambient airborne toxics cancer risk in the state.

Due to these considerations, Knox was the primary pollutant of concern and considered most relevant for the comparison. However, this first review also had a more limited scope, and, as a result, may be open to additional comments and criticism.

Estimates are based on emission factors from ARB's "Methods to Find the Cost-Effectiveness of Funding Air Quality Projects," which is often used for calculation of emission reductions and cost-effectiveness for programs such as the CMAQ program and the San Joaquin Valley Air District REMOVE program. Using a standard Diesel Bus (1998 standards), CNG Bus (2.0 g/bhp-hr Knox certification), and Light-Duty Vehicles (1995 to 2003). Estimates of the number of passengers necessary to achieve a lower emission factor (g/passenger/mi) are summarized in Appendix G.

EMFAC (Emission Factors model) is the Air Resources Board model for local, regional, and state emission calculations. Using vehicle miles traveled from the Fresno COG model, emission estimates were calculated for Fresno County in 2002 and 2010. Recognizing the requirements for conformity and standard modeling procedures, the summer season was modeled for ozone, and annual emissions

were estimated for PM10. A comparison of the break-even point for number of passengers indicates little difference between summer and annual ozone calculations.

It appears that the number of passengers necessary to show an emissions benefit increases over time. Reduction in emissions from the light-duty vehicle fleet will exceed those reductions expected by transit buses. The only exception to this rule is directly-emitted PM10; as transit buses continue to see improvement to direct emissions, through control devices and upcoming emission standards, fewer passengers are necessary to offset the emissions.

Additional analysis provided by the Air Resources Board has estimated that a 4.0 g/bhp-hr bus (1998 standards) will “break-even” with passenger vehicles carrying approximately 20 passengers. If a bus has improved emission standards, the number of passengers necessary to “break-even” is even lower. ARB Calculation Methodology for CMAQ and other air quality projects provide the emission factors for various vehicle types. Using these standard factors, which are not necessarily representative of the on-road vehicle fleet, diesel buses, CNG buses, and light-duty vehicles, the Council of Fresno County Governments determined that with this scenario, diesel buses never achieved a lower emission rate than light-duty vehicles. CNG buses, similar to those used by FAX, need to carry 25 passengers to realize an emissions benefit.

In summary, when the COFCG used the most recent EMFAC version with model runs for 2002 and 2010 Annual Ozone Emissions and similar to the ARB equation used emissions from light-duty vehicles and motorcycles, divided by VMT, to determine the emission factor. The results for 2002 suggest that buses with 14 passengers would have lower emission factors than passenger vehicles. By 2010, buses need to carry 28 passengers to have a lower emission factor. The study is included as Appendix G.

3.2.1 Route Evaluation Process

The primary assessment of transit service is accomplished by measuring individual route performance using FAX’s route evaluation process. When appropriate, corrective action is taken to modify route alignments, change the service schedule to ensure that resources are used in the most productive manner.

3.2.2 Key Transit System Performance Indicators

There are many methods for evaluating the efficiency and effectiveness of public transportation service. Because each method has unique strengths and weaknesses, FAX employs several service evaluation methods. Among the methods used are: peer review analysis, system minimums assessment, and passenger surveys.

Peer Review Analysis:

Peer Review Analysis uses standard service measurement criteria to compare one system's performance against another. This kind of analysis is most valuable when standard, well controlled data sets are available, and when the systems being evaluated have similar operating environments.

FAX Peer Review Analysis - For this Peer Review Analysis, five California transit agencies were selected: Modesto Area Express (MAX), Visalia City Coach, Sacramento RTD, Bakersfield (GET), and Stockton RTD. All five agencies are Federal Transit Administration (FTA) Grant Recipients, and therefore, required to provide their system performance data to the National Transit Database (NTD). Furthermore, because these are all California agencies, they must operate under the same California State Transportation Development Act Guidelines.

Modesto Area Express (MAX) and Visalia City Coach were selected because they operate in the closest proximity to Fresno. Sacramento RTD, Stockton RTD, and Bakersfield (GET) were selected because they are closest in fleet size and operating characteristics to Fresno. None of these properties are an exact match to FAX; however, their experience will help define FAX's stature among peer agencies.

As shown in Table 1, System Comparison - Cost Effectiveness, FAX places very well among the selected peers in two of the four categories. With an average of 43.79 passengers per hour, 43 percent higher than the peer system average, FAX ranked number one in this important productivity indicator. In the Cost per Passenger trip comparison, FAX is ranked third with a cost per passenger trip that is 16.9 percent lower than the peer system average.

Table 1 shows FAX's operating expense per hour as \$79.09, or 22.7 percent higher than the peer system average. However, an analysis of peer systems also reveals the three lowest hourly expense figures come from properties where the transit operators are contracted outside of the agencies, leading to lower labor costs.

Table 3.1
System Comparison - Cost Effectiveness
National Transit Database FY2001

System	Passengers /Mile	Passengers /Hour	Cost/ Passenger	Operating Expense/ Hour	Overall Ranking
<i>Fresno (FAX)</i>	3.28 (1)	43.79 (1)	\$1.81 (2)	\$79.09 (4)	8 (1)
Modesto (MAX)*	2.49 (3)	33.68 (2)	\$1.57 (1)	\$53.03 (2)	8 (1)
Sacramento RTD	2.52 (2)	32.68 (3)	\$3.11 (5)	\$101.55 (6)	16 (4)
Visalia City Coach*	1.61 (5)	22.39 (5)	\$1.96 (4)	\$43.98 (1)	15 (3)
Bakersfield (GET)*	2.10 (4)	28.46 (4)	\$1.93 (3)	\$54.96 (3)	14 (2)
Stockton RTD	1.40 (6)	21.96 (6)	\$3.82 (6)	\$83.96 (5)	23 (5)
System Average	2.23	30.49	\$2.37	\$64.42	

(* These systems are operated under contracts with private operators.)

It is important to remember that each of the systems used in this comparative analysis has its own unique set of operating properties that can have significant impacts on various performance measures. For instance, Sacramento RTD's passengers per hour, while less than that of FAX, also includes longer service hours for evening and weekend service and more frequent service headways, typically RTD operates on 15-minute headways rather than FAX's typical 30-minute headways. Because night service is universally less productive, by providing longer service hours RTD's passenger productivity data is driven down.

The same is true for providing more frequent service, increasing service frequency from 30-minute to 15-minutes effectively doubles the number of service hours; however, only in very rare cases would this

lead to a doubling of passenger trips. So, while improve service frequency and longer service hours are important and positive service improvements, they also reduce overall passenger productivity.

Similarly, Stockton RTD provides a high level of commuter service to the Bay Area. Commuter services are predominantly composed of long distance express service. In terms of productivity, commuter services tend to be lower in passenger per hour and mile, and higher in cost per passenger. This is certainly reflected in Stockton RTD productivity,

When viewing the cost per hour of the systems under comparison, one notes that costs appear to increase in unison with the size of the system, and/or of the population served. In fact, this turns out to be generally true among all transit systems. There are many reasons for this to happen. First, the cost of living tends to be higher in larger urban areas. We might compare the cost of housing in Fresno versus San Francisco or Sacramento. The higher cost of living in turn drives up the cost of labor. Another fundamental difference in larger systems versus smaller systems is the level of expectation for certain passenger amenities including transit stations and transfer facilities. Further, public information materials and supportive services such as customer service agents and other support staff add significantly to the cost of doing business.

As with improved service frequencies and service duration, improvements in passenger amenities and supportive services are positive improvements in customer service; however, these improvements come at a significant cost.

System Minimums Assessment:

System Minimums Assessment uses measurements from the system under evaluation to assess minimum levels of efficiency and effectiveness of its component sub-systems. The strength of this service evaluation method is that it makes allowances for unique operating practices and environments.

FAX Systems Minimums Assessment - FAX Minimum Standards are established both through legislation and local effort. From a legislative perspective, Federal and State regulations require public transit operators to provide and maintain service in some very specific ways. FTA has rules governing the provision of "Charter Service." Also, Title VI of the Civil Rights Act of 1964 states the following:

"No person in the United States shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discriminations under any program or activity receiving Federal financial assistance."

As part of the Title VI regulations, FAX must provide a Title VI Evaluation Report every three years. There are two sections to this report. The first section, General Reporting Requirements, contains information concerning active lawsuits and complaints, a description of any pending applications for Federal financial assistance, a summary of civil rights compliance review activities, FTA civil rights assurances, and fixed-facility impact analysis. The second section, Program Specific Requirements, contains information regarding the Title VI internal review process for service delivery, the internal monitoring process, the service standard policies, and a description of service changes specific to the Fresno Area Express fixed-route transit system and its impacts on the minority population. The Title VI assessment is designed to ensure that FAX provides its services equally among various population groups. Specifically, census tracts designated as "Minority Census Tracts" must be evaluated and compared to Non-Minority Census Tracts to determine whether any discriminatory practices are evident.

The State TDA regulations require FAX to maintain a minimum 20 percent farebox recovery ratio. The TDA also places restrictions on the use of State Transit Assistance (STA) Funds. Regulations require transit agencies to keep cost increases under the State Cost of Living Index (CPI). If cost increases exceed the State CPI, transit agencies are not allowed to use STA Funds for operating expenses. Finally, local and regional concerns are used to develop minimum productivity standards. For FAX, these standards are developed through a coordinated, comprehensive, continuous process carried out by the Council of Fresno County Governments (COFCG). The COFCG's Regional Transportation Plan (RTP) and Short-Range Transit Plan for the Fresno-Clovis Urbanized Area (SRTP), set guidelines for service evaluation. Additionally, each year the COFCG prepares the Annual Transit Productivity Analysis. This document assesses all public transit operators in Fresno County, and reviews the most recent Triennial Audit recommendations.

In 1981, a Transit Corridor Analysis was completed which evaluated the efficiency and effectiveness of service on a route-by-route basis. At that time, service measures were developed to assist in evaluating individual route performance in relation to the system-wide performance. Those minimum performance measures continue to be the basis of local service evaluation. At a minimum, an individual route should exceed 60 percent of the system-wide average for a number of key indicators. The 60 percent figure is an overall industry standard that assumes a transit system may tolerate some low performing routes if they provide an important component of the system, and especially if the component helps meet the needs of the transit dependant riders. FAX uses several operational indicators to measure the performance and financial status of the system and individual routes. Individual routes should achieve 60 percent of the system average, except for those indicators which measure cost efficiency. Cost performance measures should not exceed 140 percent of the total system average, with 140 percent representing the system maximum. Table 3.3 shows individual routes and their performance in various categories.

Table 3.2 reflects individual routes and their performance in various categories. The bottom line of the table shows the total gross indicators, and the system-wide performance measure. Starting with the first minimum indicator, Passengers / Service Hour, 60 percent of 36.13 is 21.68. Indicators that do not meet the system standard are shown in **boldface** type. Moving to Cost / Service Hour, the system-wide average is \$73.82, with 140 percent of that being \$103.35. Route indicators which exceed this maximum are shown in **boldface** type. The third indicator is Cost / Passenger. The FAX system-wide average is \$2.04, with 140 percent of that being \$2.86. As with the other indicators, those that exceed the maximum have been **boldfaced**. The final indicator is a farebox recovery ratio. The FAX system-wide average is 31.9 percent, with 60 percent of that being 19.14 percent. Again, those indicators that do not achieve the minimum are shown in **boldface** type.

Table 3.2
FAX Summary of Key Operational Indicators
July - June 2003-2004

Route	Passengers	Miles	Hours	Farebox	Cost	Pass/ Hour	Pass/ Mile	Cost/ Hour	Cost/ Pass.	Fare/ Op. Cost
Route 9	591,604	294,758	19,726	\$388,264	\$1,656,540	29.99	2.01	\$83.98	\$2.80	23.4%
Route 20	848,362	329,551	22,893	\$591,267	\$1,852,077	37.06	2.57	\$80.90	\$2.18	31.9%
Route 22	786,169	306,660	23,166	\$516,571	\$1,723,429	33.94	2.56	\$74.39	\$2.19	30.0%
Route 26	1,333,570	514,544	39,501	\$885,330	\$2,891,737	33.76	2.59	\$73.21	\$2.17	30.6%
Route 28	1,417,130	363,239	32,506	\$899,003	\$2,041,403	43.60	3.90	\$62.80	\$1.44	44.0%
Route 30	1,201,283	300,146	26,307	\$740,796	\$1,686,821	45.66	4.00	\$64.12	\$1.40	43.9%
Route 32	1,106,814	300,669	25,810	\$674,173	\$1,689,760	42.88	3.68	\$65.47	\$1.53	39.9%
Route 33	442,247	180,660	12,745	\$294,290	\$1,015,309	34.70	2.45	\$79.67	\$2.30	29.0%
Route 34	836,140	294,784	25,084	\$554,865	\$1,656,686	33.33	2.84	\$66.05	\$1.98	33.5%
Route 38	1,151,935	417,295	30,304	\$775,918	\$2,345,198	38.01	2.76	\$77.39	\$2.04	33.1%
Route 41	879,544	326,014	22,591	\$579,626	\$1,832,199	38.93	2.70	\$81.10	\$2.08	31.6%
Route 45	267,321	185,157	12,484	\$178,556	\$1,040,582	21.41	1.44	\$83.35	\$3.89	17.2%
*Route 18	17,869	4,519	358	\$10,596	\$25,397	49.91	3.95	\$70.94	\$1.42	41.7%
*Route 58	5,152	64,399	3,789	\$10,234	\$361,922	1.36	0.08	\$95.51	\$70.25	2.8%
Route 12	22,687	80,320	4,185	\$10,478	\$451,398	5.42	0.28	\$107.86	\$19.90	2.3%
*Route 4	7,986	6,042	715	\$0	\$33,956	11.17	1.32	\$47.50	\$4.25	0.0%
10,915,813 3,968,757 302,164 \$7,109,966 \$22,304,414						36.13	2.75	\$73.82	\$2.04	31.9%
System-Wide Totals						System-Wide Ratios				

(* Routes indicated receive funding support from outside agencies.)

At this point in the analysis, it is important to note the routes marked with an asterisk. Routes 18, 58 and 4, are routes that are subsidized by outside agencies. In the case of Route 18, Fresno County Unified School District pays the incremental costs associated with this service in order to maintain service to the Regional Occupational Program (ROP) Campus located at Teilman and Nielsen Avenues. Route 58 provides service to Children's Hospital of Central California (Children's Hospital), and receives incremental funding from Children's Hospital. Route 4 is the Downtown Parking Trolley service, and is paid for through an agreement with Fresno County. Incremental costs are the direct costs associated with the service (such as fuel, tires, and driver wages). Incremental costs do not include overhead costs (such as, FAX Administration costs or facility costs). Revenues received from the farebox on these routes are earned in addition to incremental costs.

The two routes shown in gray fill indicate service performance outside of established minimum or maximum standards (Routes 45 and 12) deserve further explanation. Route 45 (Herndon Avenue, MTC, Ashlan Avenue) is the only weekday route that FAX operates on an hourly headway. This route has had low performance in every evaluation over the last ten years. In 1999, at the request of Council, Route 45 was extended north of Shaw on Palm, and east on Herndon to serve the medical center located at Herndon and Milburn. At the time, Council had received numerous requests to serve the medical facility.

Currently, Route 45 is the only route providing service to the medical facilities at Herndon and Milburn, and is also the only route providing service to the Association of Retarded Citizens (ARC) Production Center located at Shields and Clovis Avenue. This route has the highest number of disabled riders in the system.

Route 12, the Fresno Area Neighborhood Service (FANS), is deviated fixed-route circulator service. This is an unconventional service which is a hybrid between conventional fixed-route service and demand-responsive service. Residents in this area can call as little as an hour ahead of time and reserve a ride to or from any location within the FANS service area. Other customers use the service as a conventional fixed-route system. Although the FANS service is performing well below established FAX fixed-route norms, the system is operating at twice the productivity level of our typical demand-responsive service. This program is primarily serving the residents of the Senior Citizens Village in southeast Fresno.

FAX Route Ranking – As shown in Table 3.3 reflects how each route compares with other routes in the system. Using five key indicators including, Percent of Farebox Recovery, Passenger Trips per Revenue Hour, Passengers per Mile, Operating Cost per Hour and Operating Cost per Passenger. The five key indicator scores for each route were then averaged to develop an overall route ranking score. As expected, the overall ranking places the routes which exceeded system minimum and maximum standards at the bottom of the list. We must note that Route 4 (Downtown Parking Trolley) was only operated for a brief period during the fourth quarter of FY04, and therefore limited data may skew its performance ranking. Also, routes 4, 18 and 58 operated on schedules limited under contracts with outside agencies.

Table 3.3
FAX Route Ranking
July - June 2003-2004

Route	Passengers/ Hour	Passengers/ Mile	Cost/ Hour	Cost/ Passenger	Farebox Recovery	Score
30	2	1	3	1	2	1.8
28	3	3	2	3	1	2.4
*18	1	2	6	2	3	2.8
32	4	4	4	4	4	4
34	11	5	5	5	5	6.2
38	6	6	9	6	6	6.6
41	5	7	12	7	8	7.8
26	10	8	7	8	9	8.4
20	7	9	11	9	7	8.6
33	8	11	10	11	11	10.2
22	9	10	8	10	22	11.8
*4	14	15	1	14	16	12
9	12	12	14	12	12	12.4
45	13	13	13	13	13	13
12	15	14	16	16	15	15.2
*58	16	16	15	15	14	15.2

(* Routes indicated receive funding support from outside agencies.)

Express Weekend Service Indicators - Table 3.4 (Fresno Area Express Saturday Service), and Table 3.5 (Fresno Area Express Sunday Service Indicators) utilize a similar methodology to assess weekend route performance. As indicated by the **bold type**, three routes show indicators outside of acceptable standards (Routes 9, 45 and 58). System-wide, FAX's weekend service provides 30.33 passengers per revenue hour on Saturday, and 25.2 passengers per revenue hour on Sunday. The minimum acceptable would be 60 percent of those measures, or 18.19 passengers per revenue hour for Saturday and 15.12 passengers per revenue hour for Sunday.

Passengers per mile averaged 2.29 on Saturday, and 1.89 on Sunday, therefore, the minimum productivity standards is 1.37 and 1.13 respectively. Cost per passenger average on Saturday was

\$2.47 and on Sunday \$2.97. Using the 140 percent standard, the Saturday maximum would be \$3.46 and the Sunday maximum would be \$4.16. The farebox recovery ratio for Saturdays averaged 26.2 percent, while on Sundays the average farebox recovery ratio was 22.0 percent. As with the passengers per hour measure, we evaluate individual routes based on a minimum of 60 percent of the system average, or 15.72 percent for Saturdays and 13.20 percent for Sundays. As noted earlier, Route 58 receives funding support from Children's Hospital.

As noted earlier, Route 9 (Shaw Avenue) fails to meet performance standards twice (passengers per mile and cost per passenger) on Sundays; however, close examination shows that cost per passenger is also very close on Saturday with the maximum standard of \$3.46, and a performance of only \$3.44.

Table 3.4
Fresno Area Express Saturday Service Indicators
July 2003 to June 2004

Route	Passengers	Miles	Hours	Revenue	Operating Cost	Pass/ Hour	Pass/ Mile	Cost/ Hour	Cost/ Pass	Farebox Recovery
9	129,560	79,390	5,310	\$88,174	\$446,174	24.40	1.63	\$84.03	\$3.44	19.8%
20	107,893	57,372	3,870	\$72,555	\$322,428	27.88	1.88	\$83.31	\$2.99	22.5%
22	116,755	52,250	3,929	\$73,678	\$293,647	29.71	2.23	\$74.73	\$2.52	25.1%
26	179,911	76,322	5,247	\$117,901	\$428,932	34.29	2.36	\$81.74	\$2.38	27.5%
28	281,700	90,872	7,532	\$177,657	\$510,700	37.40	3.10	\$67.80	\$1.81	34.8%
30	235,779	76,523	6,628	\$147,349	\$430,059	35.57	3.08	\$64.88	\$1.82	34.3%
32	220,117	79,803	6,812	\$140,013	\$448,495	32.31	2.76	\$65.84	\$2.04	31.2%
33	84,168	37,878	2,360	\$52,825	\$212,874	35.66	2.22	\$90.20	\$2.53	24.8%
34	179,706	77,361	6,590	\$117,607	\$434,768	27.27	2.32	\$65.97	\$2.42	27.1%
38	205,092	104,218	7,646	\$136,549	\$585,703	26.82	1.97	\$76.60	\$2.86	23.3%
41	139,001	55,342	3,800	\$91,225	\$311,022	36.58	2.51	\$81.86	\$2.24	29.3%
45	37,357	39,270	2,643	\$24,305	\$220,700	14.13	0.95	\$83.50	\$5.91	11.0%
*58	401	14,667	845	\$1,040	\$82,431	0.48	0.03	\$97.57	\$205.39	1.3%
1,917,440 841,269 63,214 1,240,876 \$4,727,933						30.33	2.28	\$74.79	\$2.47	26.2%
System-Wide Totals						System-Wide Averages				

* Note Route 58 is subsidized by Children's Hospital of Central California (Children's Hospital).

Table 3.5
Fresno Area Express Sunday Service Indicators
July 2003 to June 2004

Route	Passengers	Miles	Hours	Revenue	Operating Cost	Pass/ Hour	Pass/ Mile	Cost/ Hour	Cost/ Pass	Farebox Recovery
9	78,613	69,971	4,680	\$53,854	\$393,238	16.80	1.12	\$84.03	\$5.00	13.7%
20	80,853	50,565	3,411	\$55,179	\$284,174	23.70	1.60	\$83.31	\$3.51	19.4%
22	85,287	46,051	3,463	\$53,631	\$258,808	24.63	1.85	\$74.73	\$3.03	20.7%
26	149,925	67,267	4,625	\$99,318	\$378,042	32.42	2.23	\$81.74	\$2.52	26.3%
28	211,313	80,090	6,638	\$134,543	\$450,108	31.83	2.64	\$67.80	\$2.13	29.9%
30	158,515	67,444	5,844	\$100,333	\$379,035	27.13	2.35	\$64.86	\$2.39	26.5%
32	160,673	70,335	6,004	\$100,339	\$395,284	26.76	2.28	\$65.84	\$2.46	25.4%
33	53,591	33,384	2,080	\$34,153	\$187,618	25.77	1.61	\$90.20	\$3.50	18.2%
34	129,945	68,182	5,808	\$86,373	\$383,185	22.37	1.91	\$65.97	\$2.95	22.5%
38	181,938	91,853	6,739	\$124,118	\$516,213	27.00	1.98	\$76.60	\$2.84	24.0%
41	86,763	48,776	3,349	\$58,309	\$274,121	25.91	1.78	\$81.86	\$3.16	21.3%
45	26,402	34,611	2,330	\$17,114	\$194,515	11.33	0.76	\$83.50	\$7.37	8.8%
*58	256	12,927	745	\$618	\$72,651	0.34	0.02	\$97.57	\$283.79	0.9%
System-Wide Totals						25.20	1.89	\$74.79	\$2.97	22.0%
						System-Wide Averages				

* Note Route 58 is subsidized by Children's Hospital of Central California (Children's Hospital).

Express Weekend Service Ranking - As with the weekday service, Tables 3.6 and 3.7 use performance standards to rank each route in the system, with routes that fall below the minimum standard are ranked at the bottom.

Table 3.6
Fresno Area Express Saturday Service Ranking
July 2003 - June 2004

Route	Pass/Hour	Pass/Mile	Cost/Hour	Cost/Pass	Revenue	Rank
28	2	1	4	1	1	1.8
30	3	2	1	2	2	2
32	5	3	2	3	3	3.2
26	1	5	7	5	5	4.6
41	6	4	8	4	4	5.2
34	10	6	3	6	6	6.2
38	4	9	6	9	9	7.4
33	7	8	12	8	8	8.6
20	9	10	9	10	10	9.6
22	8	7	5	7	7	10.7
9	11	11	11	11	11	11
45	12	12	10	12	12	11.6
*58	13	13	13	13	13	13

* Note Route 58 is subsidized by Children's Hospital of Central California (Children's Hospital).

Table 3.7
Fresno Area Express Sunday Service Ranking
July 2003 - June 2004

Route	Pass/Hour	Pass/Mile	Cost/Hour	Cost/Pass	Revenue	Rank
28	2	1	4	1	1	1.8
30	3	2	1	2	2	2
32	5	3	2	3	4	3.4
26	1	4	7	4	3	3.8
38	4	5	6	5	5	5
41	6	8	8	8	7	7.4
34	10	6	3	6	6	6.2
22	8	7	5	7	8	7
33	7	9	12	9	10	9.4
20	9	10	9	10	9	9.4
9	11	11	11	11	11	11
45	12	12	10	12	12	11.6
*58	13	13	13	13	13	13

* Note Route 58 is subsidized by Children's Hospital of Central California (Children's Hospital).

Night Service - Table 3.8 below includes productivity data for FAX night service. Night service is defined as all weekday service after 6:00 p.m. As with day the day service evaluations, individual routes are evaluated using system productivity standards. A minimum of 60 percent for passenger performance measures, and system maximum of 140 percent for system cost measures is applied to the system averages for service after 6:00 p.m. Again, indicators not performing as required are shown in boldface type. In the case of FAX night service, Route 45 is the only route performing outside of productivity guidelines. We note that Route 45 service stops at 9:00 p.m., and is the earliest end time for all night service routes.

Table 3.8
Fresno Area Express Night Service
July 2003 - June 2004

Routes	Passengers	Miles	Hours	Operating		Pass/ Hour	Pass/ Mile	Cost/ Pass	Farebox Recovery
				Cost	Revenue				
9	62,129	58,734	4,142	\$330,085	\$23,095.08	15.00	1.1	\$5.31	7.00%
20	69,241	74,547	5,961	\$418,954	\$25,373.88	11.62	0.9	\$6.05	6.06%
22	70,782	66,264	5,271	\$372,404	\$23,446.00	13.43	1.1	\$5.26	6.30%
26	119,154	118,221	9,287	\$664,402	\$40,729.76	12.83	1.0	\$5.58	6.13%
28	123,883	74,547	7,028	\$418,954	\$43,656.52	17.63	1.7	\$3.38	10.42%
30	107,310	65,762	6,024	\$369,582	\$36,810.55	17.81	1.6	\$3.44	9.96%
32	102,746	59,487	5,120	\$334,317	\$30,876.19	20.07	1.7	\$3.25	9.24%
33	44,201	36,897	2,987	\$207,361	\$14,010.49	14.80	1.2	\$4.69	6.76%
34	69,171	60,742	5,246	\$341,370	\$26,838.68	13.19	1.1	\$4.94	7.86%
38	103,231	86,595	6,626	\$486,664	\$36,617.57	15.58	1.2	\$4.71	7.52%
41	92,301	76,555	5,422	\$430,239	\$30,140.32	17.02	1.2	\$4.66	7.01%
45	18,251	40,662	2,786	\$228,520	\$6,170.75	6.55	0.4	\$12.52	2.70%
982,400						14.91	1.2	\$4.69	7.34%
System-Wide Totals						System-Wide Averages			

As the table shows, FAX night service performance is far lower than either day or weekend service performance; however, this is typical of transit systems across the country.

Clean Air Express Vanpool Program - During FY03 the FAX Planning Division undertook a major market analysis to identify express commuter services for Downtown Fresno. The goal of the project was to identify viable express bus services that would serve the downtown commuter market leading to reduced parking congestion and improved air quality. With \$100,000 of measure C funds designated to implement a new express service, staff began to look at a variety of express service designs. The designs were first presented to focus groups that helped to fine-tune a set of service options which were included in a commuter market survey of nearly 1,500 downtown commuters. Essentially, the survey made it clear that express bus service was not likely to be successful. However, the survey did reveal that an aggressive vanpool program might be a viable opportunity. In January of 2004, following a very broad based marketing effort; FAX placed seven Clean Air Express Vanpools in service.

The data depicted in Table 3.9 reflects the Vanpool service.

Table 3.9
January 2004 – December 2004

Vehicle I.D.	Passenger Trips	Vehicle Miles	Lease Cost	Operation Cost	Total Cost	Total Cost/ Mile	Total Cost/ Trip
990010-1	5,982	39,884	\$15,690	\$2,815	\$18,505	\$0.46	\$3.09
990011-2	1,560	7,540	\$12,100	\$1,840	\$13,940	\$1.85	\$8.94
990012-3	6,448	64,168	\$14,400	\$5,370	\$19,770	\$0.31	\$3.07
990019-4	4,784	26,520	\$14,800	\$2,840	\$17,640	\$0.67	\$3.69
990020-5	6,760	33,124	\$14,700	\$4,535	\$19,235	\$0.58	\$2.85
990021-6	6,136	33,748	\$15,500	\$2,347	\$17,847	\$0.53	\$2.91
990022-7	3,640	17,940	\$13,400	\$2,260	\$15,660	\$0.87	\$4.30
Total	35,310	222,924	\$100,590	\$22,007	\$122,597	\$0.55	\$3.47
System Totals						System Averages	

Findings - FAX placed well in the peer review process, with the highest passenger per hour and passengers per mile overall. Further, FAX placed second in operating cost per passenger trip overall, and among the transit operators who employ their own drivers, FAX had the lowest operating cost per passenger trip. In an overall ranking with the peer systems, FAX tied for first place position with Modesto Area Transit (MAX), and FAX scored better than MAX in every category except Operating Cost per Hour where MAX, as a smaller contract property, has a clear advantage.

In the systems minimum/maximum standard assessment, four routes were shown to fall outside of accepted standards. However, one of the routes, Route 4, only had a few weeks of operation during the fiscal year under analysis, and the limited amount of data may be misleading. Route 58 is subsidized through a contract with Children's Hospital which pays the incremental cost of operation, and as such, provides service to the citizens of Fresno at no extra cost.

Of the two remaining routes, Council has chosen to maintain Route 45 because of its very high patronage by disabled citizens even though it has been a poor performing route for many years. It should also be noted that Route 45, at 21.41 passengers per hour, nearly equals the average ridership of Stockton RTD (21.96), and approaches the average performance of Visalia City Coach at 22.39 passengers per hour. Further, by applying the FAX minimum standard to the peer systems we see that only 18.24 Passengers per hour would be required, and Route 45 would safely achieve that standard.

FAX Route 12 is a deviated fixed-route service which offers limited demand-responsive trip options within a specified service area. While ridership on Route 12 has grown significantly since its inception, the nature of this hybrid service does not lend itself to high productivity. Instead, it places a premium on convenience by deviating off of its route to pick up and deliver passengers to points very

near to their destinations. Route 12's productivity is slightly more than twice Handy Ride's (5.42 to 2.34), but only a fraction of the FAX system average of 36.13. The operating cost per passenger for Route 12 in FY 2004 was \$19.90, while operating cost per passenger system-wide was \$2.04, and for Handy Ride \$20.52.

While the deviated route concept is popular among many passengers because of the convenience it offers, the convenience comes at a significant cost which is nearly as high as the cost of traditional paratransit service. The high cost per trip of Route 12 subverts one of the primary justifications for the service; that it would reduce the demands on FAX's paratransit service Handy Ride. The decision whether to continue operating premium services such as Route 12 must be carefully evaluated in light of the high cost per passenger trip.

Conclusions - The bottom line of the table shows the total gross indicators, and the system-wide performance measure. Starting with the first minimum indicator, Passengers per Service Hour, 60 percent of 38.35 is 23.01. Indicators that do not meet the system standard are shown in **boldface** type. Moving to Cost per Service Hour, the system-wide average is \$71.17, and 140 percent of that is \$99.64. Route indicators which exceed this maximum are shown in **boldface** type.

The Third indicator is Cost per Passenger. The FAX system-wide average is \$1.86, and 140 percent of that is \$2.60. As with the other indicators, those that exceed the maximum have been **boldfaced**. The final indicator is a farebox recovery ratio. The FAX system-wide average is 35.3 percent, and 60 percent of that is 21.18 percent. Again, those indicators that do not achieve the minimum are shown in **boldface** type.

At this point in the analysis, it is important to note the routes marked with an asterisk: Route 18, and 58 are routes that are subsidized by outside agencies. In the case of Route 18, Fresno County Unified School District pays the incremental costs associated with this service in order to maintain service to the Regional Occupational Program (ROP) Campus located at Teilmen and Neilson Avenues. Route 58 is the weekday service to Valley Children's Hospital (VCH), and receives incremental funding from Children's Hospital of Central California. Incremental costs are the direct costs associated with the service (such as fuel, tires and driver wages). Incremental costs do not include overhead costs (such as FAX Administration costs, or facility costs). Revenues received from the farebox on these routes are earned in addition to incremental costs.

Passenger Surveys:

Passenger surveys allow public transit operators to include human aspects of service in the evaluation mix. Measurements of satisfaction, friendliness, and of opinions about services provided are most appropriately collected through customer surveys. Additionally, customer surveys provide an effective way to measure customer expectations and needs, and provide valuable information for quality decision making.

Passenger Surveys - One of the most important elements of the FAX service evaluation process is the passenger survey. FAX utilizes a variety survey methods including inexpensive self-administered surveys which are provided in every schedule guide, more detailed and expensive on-board interviews. These surveys are used to collect information that is required by Federal and State agencies including passenger demographics, origin/destination information, and travel habits. This data also provides FAX with insights into the concerns of our passengers. For example, it was one of these passenger surveys that allowed FAX to prioritize service improvement options and select night service in 1999.

FAX Rider Origin, Destination and Needs Assessment

In conjunction with the COFCG, FAX has hired various firms to conduct Customer Satisfaction Survey's since 1994. The purpose of the surveys is to identify areas which need improvement. Based on the survey findings, FAX has developed training programs and procedures to improve customer satisfaction in specifically identified areas. Some of the surveys included a telephone survey and most on-board surveys consisted of over 400 on-board interviews with randomly selected bus riders. The primary purpose of the surveys was to assess the extent to which FAX customers are satisfied with the service they receive. Results of the previous surveys are identified on Table 3.11. Specific areas of inquiry included the following:

- Frequency of riding the bus
- Trip purpose
- Availability of a car for the current trip and other trips
- The extent and ease of using the bus lift
- Interest in training on how to use the lift
- Method of fare payment
- Convenience of the locations where tokens, tickets, and passes are sold
- The extent to which drivers announce the next stop
- Helpfulness of bus stop announcements
- The extent to which riders feel safe while waiting for the bus and while on the bus
- Reasons for not feeling safe
- Effect of knowing that the bus is equipped with a working video camera
- Effect of knowing that there is a vehicle tracking system in place
- Satisfaction with evening if service
- Suggestions for improving FAX's overall service
- Respondent demographics such as employment, age, ethnicity, income, and gender

Using a traditional academic grading system, FAX riders gave FAX an 'A' for the majority of service attributes including Overall Service, Driver Safety and Consciousness, Customer Service, Safety and Comfort. FAX received a 'C' for running buses on time, and the frequency. The lowest grad FAX received was a 'D' for hours of operation, indicating a strong desire service later in the evening and earlier in the morning.

Table 3.10 is the complete FAX report card including a description of the methodology used to develop the grading system.

Table 3.10
Fresno Area Express Passenger Survey Report Card
AIS - October 2004

Service Attribute	Mean Satisfied with Problem	Mean Satisfied Without a Problem	Gap Value	% Who Had a Problem	Impact Score	Report Card
Q7. Buses running on time	2.66	2.39	0.27	9	2.43	C
Q8. Frequency of the buses	2.56	2.31	0.25	8	2.00	C
Q9. A second bus running right behind the first bus during busy hours	2.48	2.31	0.17	6	1.02	B
Q10. Cleanliness inside FAX buses	2.36	2.15	0.21	7	1.47	B
Q11. Cleanliness of the bus stops and exchanges	2.50	2.32	0.18	6	1.08	B
Q12. Bus drivers' customer service	2.35	2.19	0.16	5	0.80	A
Q13. Bus drivers' driving skills	2.03	1.96	0.07	2	0.14	A
Q14. Bus drivers' safety consciousness	2.01	1.92	0.09	2	0.18	A
Q15. The overall comfort of the bus rides	2.20	2.11	0.09	3	0.27	A
Q16. Availability of FAX route/schedule information	2.11	2.00	0.11	3	0.33	A
Q17. Bus hours of operation/service in a week	2.75	2.41	0.34	11	3.74	D
Q18. Proximity of bus stops to home	2.04	1.91	0.13	3	0.39	A
Q19. Proximity of bus stops to destination	2.04	1.96	0.08	2	0.16	A
Q20. Value provided by FAX for the fare/price paid	2.17	2.06	0.11	3	0.33	A
Q21. Overall service provided by FAX	2.16	2.10	0.06	2	0.12	A
Q22. Safety riding on FAX buses*	1.60	1.55	0.05	2	0.10	A
Q23. Safety at bus stops and exchanges*	1.93	1.88	0.05	3	0.15	A

REPORT CARD RATING NOTES:

1. Q22 and Q23 are measured on a 4-point scale. Percent with problem is equated to percent who felt "Very Unsafe."
2. For all other attributes, Q7 thru' Q21 (see Questionnaire for details), a six-point measure was used. Percent with problem is equated to total percent who felt "Dissatisfied" or "Very Dissatisfied."
3. Impact Score = Gap Value X % who had Problem. Gap Value = Mean Satisfied. With Problem - Mean Satisfied. Without Problem
4. Adopted Grade Cutoff: < 1 = A; < 2 = B; < 3 = C; < 4 = D; >4 = F; Mean Impact Score = 0.865; Std Dev. = 1.022

Table 3.11
Historical Survey Results

Research Firm	AIS 2004	AIS 2001	Godbe 2000	Franz 1998	Illium 1994
Trip Purpose					
Work	26.0%	26%	37%	26.7%	23%
School	31.0%	31%	20%	21.2%	41%*
Shopping	20%	20%	8.4%	14.4%	10%
Medical	8%	8%	5.5%	10.4%	6%
Transit Dependant	73%	73%	71.9%	79.7%	59%
Total Annual Household Income Less Than \$15K	46%	46%	52.9 %	35.8%	52%
Employed Full or Part Time	41%	41%	32%	32%	39%
Student	31%	31%	36%	26.4%	33%

The most recent survey findings by AIS Research in May 2004 discovered that the largest group of FAX riders (31 percent) use the service at least five times a week, and 20 percent of riders surveyed indicate that they use the FAX system every day. In terms of trip purpose, 39 percent of riders said their primary purpose for riding the bus at the time of the interview was to get to work. The second most frequently stated trip purpose was school at 21 percent. Rider demographics are somewhat reflective of the trip purpose findings with 41 percent of all riders interviewed being employed either part-time or full-time, and 31 percent of all riders interviewed are students. A noticeable trend over the last ten years is that although a significant number of trips by passengers are still for work related activity, passengers are using the FAX system more and more for shopping and recreational activities.

Other demographics show that riders tend to be young with 54 percent of riders less than 35 years of age. In addition, Caucasians comprised 30 percent of those surveyed, while African-Americans and Hispanics comprising 38 percent 24 percent respectively. Asian-Americans comprised less than 4 percent of the riders interviewed. Finally, over 4 percent of all bus riders interviewed reported that they have a disability which makes travel challenging. In addition, 52 percent of the riders interviewed were female.

The AIS final report identified several areas for possible improvement including frequency of the buses, hours of operation, and on time performance. Survey findings show that overall satisfaction with FAX as a transit provider was solid at 17% very satisfied, 58% satisfied, and 20% slightly satisfied for a combined approval of 95%. Most FAX riders do not have transportation alternatives for work or school. The fact that FAX riders tend to be young, low-income, and of ethnic minorities serves to underscore the importance of FAX service in an era of welfare reform. It is also significant to recognize that there is substantial demand for providing more frequency of service and more routes. To the extent that providing such service is feasible, it might well increase access to jobs, education, and increase ridership.

Handy Ride - Handy Ride offers demand-responsive, curb-to-curb service seven days a week during the same hours as the Fixed-Route service. The Handy Ride service area is somewhat larger than the fixed-route area, and is described in Chapter I. Requests for service are accepted up to 14 days in advance for ADA Certified individuals, and on the same day, if space is available, for ADA and Handy Ride general passengers. Service hours for Handy Ride mirror those of the FAX system.

To address growing demand for Handy Ride service, FAX issued a Request for Proposal (RFP) for the privatization of Handy Ride services. Two contracts were awarded to Laidlaw Contract Services, one in April 1993, and again in April 1998. FAX continues to closely monitor Handy Ride service in order to assure compliance with the city contract and with the ADA, Handy Ride's ridership has grown from 102,976 passenger rides in FY2002 to 169,898 passenger rides in FY04. Table 3.13 presented below shows Handy Ride's annual ridership. Beginning in late 2002, Handy Ride changed its reservation system from 14 days in advance to 1 day in advance. This has resulted in no trip denials for Handy Ride passengers, however it has resulted in the need for taxis as a backup service, which will be reflected as increased ridership in the future.

Table 3.12
FAX Fixed Route Service Annual Mileage and Ridership FY78 - FY04

Fiscal Year	Revenue Miles	Revenue Passengers	Total Transfers	Total Passengers	Percent Change
1977-78(2)	4,261,915	5,583,352	1,007,558	6,590,910	4.1%
1978-79	4,336,300	6,315,284	1,199,250	7,514,534	14.0%
1979-80(3)	4,353,209	7,215,085	1,675,679	8,890,764	18.3%
1980-81	4,323,980	7,056,039	1,526,715	8,582,754	-3.5%
1981-82(4)	3,323,085	5,896,767	1,587,875	7,484,642	-12.8%
1982-83(5)	3,202,706	5,667,147	1,533,030	7,200,177	-3.8%
1983-84	3,128,881	5,866,666	1,485,673	7,352,339	2.1%
1984-85(6)	3,177,165	6,419,373	1,538,071	7,957,444	8.2%
1985-86(7)	3,275,000	6,790,820	1,121,811	7,912,631	-0.6%
1986-87(8)*	2,981,923	6,410,164	1,009,520	7,419,684	-6.2%
1987-88(9)*	2,979,980	7,005,165	1,213,572	8,218,737	10.8%
1988-89(10)	2,996,568	7,138,525	1,447,374	8,585,876	4.5%
1989-90	2,994,049	7,403,482	1,578,114	8,981,596	4.6%
1990-91(11)	2,983,317	7,454,390	1,613,109	9,067,499	1.0%
1991-92	3,056,519	6,702,708	1,439,454	8,142,162	-10.2%
1992-93	3,027,376	6,576,724	1,369,259	7,945,982	-2.4%
1993-94	3,023,817	6,695,555	1,400,201	8,095,756	1.9%
1994-95(12)	3,053,058	N/R	N/R	8,552,797	5.6%
1995-96	3,048,962	N/R	N/R	9,225,096	7.9%
1996-97	3,053,058	N/R	N/R	9,545,574	3.5%
1997-98	3,050,894	N/R	N/R	10,399,087	8.9%
1998-99	3,552,000	N/R	N/R	11,021,716	5.9%
1999-00(13)	4,262,424	N/R	N/R	12,419,412	12.6%
2000-01(14)	4,277,175	N/R	N/R	13,178,495	6.1%
2001-02	4,289,968	N/R	N/R	11,905,195	-14.91
2002-03	4,403,172	N/R	N/R	11,213,049	-5.81%
2003-04 (15)	4,320,952	N/R	N/R	10,872,487	-3.04%

- (1) 50 new buses, major expansion and improvements
- (2) Base fare increase to \$.25
- (3) Base fare increase to \$.35
- (4) Base fare increase to \$.40, major service reductions
- (5) Moderate service reductions
- (6) Sunday service re-established
- (7) Base fare increase to \$.50
- (8) Significant service changes

- (9) Increased marketing activity
- (10) Base fare increase to \$.60
- (11) Base fare increase to \$.75
- (12) National Transit Database Data begins
- N/R: Not reported in NTDB reports
- (13) Night Service established
- (14) Base Fare increase to \$1.00
- (15) Vanpool service added

Table 3.13
Handy Ride Annual Mileage and Ridership FY84 - FY04

FISCAL YEAR	VEHICLE MILES	% CHANGE	TOTAL PASS.	%CHANGE	MILES/ PASS.
1983-84	220,227	6.6%	33,157	4.8%	6.6
1984-85	230,953	4.9%	34,688	4.6%	6.7
1985-86	239,802	3.8%	35,505	2.3%	6.8
1986-87	254,618	6.2%	41,387	16.6%	6.2
1987-88	264,199	3.8%	43,457	5.0%	6.1
1988-89	260,689	- 1.3%	46,040	5.9%	5.7
1989-90	255,279	- 2.1%	45,047	- 2.2%	5.7
*1990-91	274,719	7.6%	52,130	15.7%	6.1
*1991-92	266,539	- 2.9%	53,303	2.2%	5.3
*1992-93	329,387	23.5%	60,599	12.0%	5.4
1993-94	468,151	42.1%	71,227	17.5%	6.6
▼1994-95	575,345	22.9%	89,256	25.3%	6.4
▼1995-96	526,562	-8.4%	87,466	-2.0%	6.0
▼1996-97	402,443	-23.6%	86,504	-1.1%	4.7
▼1997-98	635,611	57.9%	96,026	11.0%	6.6
▼1998-99	687,902	8.2%	97,566	1.6%	7.0
▼1999-00	773,874	12.5%	95,603	-2.0%	8.0
▼2000-01	868,861	12.2%	100,832	5.4%	8.6
▼2001-02	920,744	5.9%	102,976	2.1%	8.9
▼2002-03	1,011,081	16.9%	133,483	29.63%	7.5
▼2003-04	1,182,065	5.9%	169,898	27.01%	6.9

Source: Handy Ride Operating Summaries

* Passenger Data includes FCEOC weekday contract service.

▼ National Transit Database Data

Handy Ride Assessment of Service and Rider Needs - In March 1994, Bartels Research Inc. conducted a telephone survey of Handy Ride users. The major objective of the survey was to determine whether or not Laidlaw Contract Services should continue to provide the service, and to determine how the service could be improved.

The sample of respondents was drawn from a list of recent Handy Ride users, all of which had used the service within the four weeks previous the survey. A list of users was supplied by FAX. FAX contracted with Bartels Research Inc. for five additional surveys October 1994, April 1995, November 1996, November 1997, and November 1998. Each survey used the same methodology to determine the survey sample, and the questions have remained the same since the November 1996 survey. Beginning in 1999, 2000, 2002 and 2004, AIS Market Research was contracted to do the surveys and maintained the same survey techniques so that FAX can continue to develop a consistent data set which provides a means for assessing performance and measuring improvements.

The purpose of the study was to understand expected usage patterns for Handy Ride in the future. Based on passenger's self evaluation of their ridership plans, ridership is expected to increase in the future due to more frequent Handy Ride trips anticipated ahead. While average cost per Handy Ride trip borne by FAX is high, demarketing Handy Ride services would be challenging. First, 75 percent of Handy Ride users do not make more than four one-way trips in a typical week. There isn't a large segment of heavy users to target. Handy Ride passengers use the service mostly to get to medical appointments. An opportunity to lessen the demand for Handy Ride services is to persuade riders who could, or have taken FAX's fixed-route bus to supplement more of their trips via the regular fixed-route bus. Overall, a report card with letter grades was generated for the first time in a report on FAX's Handy Ride satisfaction performance. Handy Ride earned 12 As, 2 Bs, and 3 Ds on the seventeen service attributes evaluated. The relatively less satisfactory performance areas were Handy Ride's getting passengers home or to their destinations on time, and timeliness in Scheduled and Will Call pick ups.

Riders may, themselves, have contributed to this lower satisfaction over Handy Ride pick up times. Only 21 percent of the sample indicated "always allowing a two hour window between their requested pick-up time and their appointment time". Riders who were late to their appointments or late getting home may have attributed the delay to Handy Ride's long wait times. Riders may feel that the "two hour window" was unnecessary as most of their rides were typically shorter than 30 minutes. Finally, excluding the wait times that Handy Ride were allegedly late in the pick ups, the typical and longest median pick-up times were very reasonable and very much within FAX's allowable wait times.

3.3.0 Program for New Transit Service

FAX is pursuing an aggressive program for new and increased transit service as part of an overall effort to increase mobility. Furthermore, FAX has made a commitment to reducing crowding issues created by increases in passenger loads, wheel chair boardings, and by traffic congestion. Transit improvements will be targeted to high growth areas while maintaining our commitment to seniors and the transit dependent community. Specific components of FAX's expansion program and the basis for this program are discussed below.

3.3.1 Basis for Increased Transit Service

An analysis of the FAX system has demonstrated that the services provided are highly utilized and efficient when examined under peer analysis, with the highest ridership per service hour (43 percent higher than the peer average), and 56 cents less than the peer average for cost per passenger trip. An internal Systems Minimums Analysis has demonstrated that only four routes are performing at less than acceptable standards, and two of those routes (4 and 58) are supported by outside agencies. Of the remaining low performers, Route 45 meets peer level performance standards.

The other route performing below standards was Route 12, a hybrid between demand-response and traditional fixed-route service. Deviated fixed-routes are a relatively new design in public transit, and are being evaluated as a potential system for improving transit's market share. Unfortunately, the transit industry has not had enough experience with this service delivery system to have readily available service standards. However, as more operators experiment with this innovative service design, refinements may improve productivity. Initially conceived of as a service that would reduce reliance on traditional paratransit service and add transfer connectivity to the rest of the FAX system, the service is not performing as expected. With the cost per passenger trip approaching that of the paratransit service the system is not an effective way of reducing the demand for Handy Ride.

Two low performing routes (Route 49 and Route 29) have been discontinued as a result of previous performance analysis. Finally the two routes shown in gray fill indicated service performance outside of established minimum or maximum standards (Routes 45 and 12) deserve a little explanation. Route 45 (Herndon Avenue, MTC, Ashlan Avenue) is the only weekday route that FAX operates on an hourly headway. This route has had low performance in every evaluation over the last ten years. In 1999, at the request of Council, Route 45 was extended north of Shaw on Palm, and east on Herndon to serve the medical center located at Herndon and Milburn. At the time, Council had received numerous requests to serve the medical facility. Currently, Route 45 is the only route providing service to the medical facilities at Herndon and Milburn, and is also the only route providing service to the Association of Retarded Citizens (ARC) Production Center located at Shields and Clovis Avenue. This route has the highest level of disabled riders in the system.

Route 12, the Fresno Area Neighborhood Service (FANS), is a deviated fixed-route circulator service. This is an unconventional service which is a hybrid between conventional fixed-route service and demand responsive service. Residents in this area can call as little as one hour ahead of time and reserve a ride to or from any location within the FANS service area. Other customers use the service as a conventional fixed-route system. Although the FANS service is performing well below established FAX fixed-route norms, the system is operating at twice the productivity level of our typical demand-responsive service. This program is primarily serving the residents of the Senior Citizens Village in southeast Fresno.

The survey information, especially when combined with public testimony received during Unmet Transit Needs Meetings conducted by the COFCG in February 2005, show a high level of interest and need for more frequent service. More frequent service, and better on time performance were the primary requests received during those meetings. Other requests stated the need for night service on weekends, and later service on weekdays in order to accommodate work schedules.

Based on passenger surveys, the first suggested opportunity might be to increase service frequency on a heavily used or severely impacted route. FAX has received CMAQ funding and will attempt to pursue 15 minute frequencies on Route 28 and Route 30 in 2005. Some additional service has been offered on Route 30 in 2004 in an attempt to reduce the crowding on buses. Unfortunately, there are not enough resources to significantly reduce headways (achieve 20 or 15-minute frequencies) on any of the other main routes especially if Measure C is not reauthorized. The next opportunity would be to improve on-time performance on a heavily utilized route. This has been accomplished using these limited resources on Route 30 by adding an additional bus into the schedule, since schedule adherence problems are caused by higher ridership on major routes. As the Peer Analysis and passenger surveys have demonstrated, FAX service is often impacted by high ridership. It may be possible to improve schedule adherence on two or more lines depending on the nature and duration of the problems.

FAX has been providing service within the Downtown area using a CNG Replica trolley. This service has been offered every ten minutes and has been used for shuttling downtown employees from parking lots to their workplace. The service has also been used to provide transportation to downtown restaurants, and jury service trips for the public. The service has also been modified to provide transportation to the Tower District during the lunch hours. The trolley service has been available to the public at no charge and will continue to operate through the next year with some reduced hours of operation.

FAX is also committed to the Downtown Express Vanpool Program which has been in operation since 2004 and has increased to twelve vans with at least 10 passengers per van. The program has expanded from commuter trips to the Downtown area only, to areas throughout the County of Fresno as far as

Visalia, Madera, Reedley, and Sanger. This program will continue to receive Measure C funding through 2006 and will continue to seek funding from the Air District, UCAN, and CMAQ.

More recently, FAX is in the process of undertaking a Regional Public Transportation Infrastructure Study with the purpose of defining a countywide public transportation system that maximizes personal mobility by providing functional access to work, education, health care, recreation and other essential services for all county residents. The project will also focus on identifying ways to reduce vehicle miles traveled, improve air quality, and identify alternatives to the private automobile. The final plan should provide some strategies for a countywide transportation system that will be sustainable over a 50 year horizon. This study is being undertaken by a dynamic mix of firms and should be completed in 2006.

FAX is also in the process of investigating options for a Regional District Formation which will be prepared and finalized on 2005. The study is intended to look at various options including the formation of a Regional Transportation District to include Fresno Area Express, the City of Clovis, and the FCRTA. The study will also determine which transportation services could be coordinated without the need for a regional formation, as well as exploring the possibility of a MOU between agencies to provide more efficiencies in the delivery of Countywide transit services.

3.3.2 Bus Service Expansion Program

Unmet Transit Needs

Beginning in April, 1999, FAX began operating the same level of service on Sunday as had been operated on Saturday previous to these changes. This expanded service is provided on Routes 20 and 45 (previously not operated on Sunday), and service on Routes 22, 26 and 38 also operate on full routes instead of the previously abbreviated Sunday service route. Among the areas which received new or additional Sunday service were: Clovis, Malaga, Saint Agnes Hospital, Kaiser Hospital, the Peoples Church, the Market Place, Tarpey Village, and the Fresno Yosemite International Airport.

In addition, night service was introduced in September 1999, and extended weekday service hours on all regular routes to at least 10:00 p.m. This has ensured connection and transfer opportunities for all FAX passengers until 10:00 p.m., and has provided service on some routes as late as 11:30 p.m. All route frequencies remained unchanged in order to encourage maximum use. The success of the night service is evident in the overall increase in ridership from FY99 of 11.2 million passengers to FY00 ridership total of over 12.5 million.

Over the last year, FAX has worked closely in providing service to new areas within the City as well as expanding service to unserved areas. One such service introduced in 2001 is the Fresno Area Neighborhood Service (FANS) which is a fixed-route service in southeast Fresno which has a deviated service component. The service is designed to provide personalized rides for those passenger who make a reservation in advance. Although FANS is not a door to door service, it has been designed to provide passengers with some service in fast growing areas where trunkline fixed route service is not likely to be provided in the future.

In addition, FAX has been working continuously with major employment centers throughout the City in assessing service to those areas. FAX assessments have included employee surveys and meetings with personnel teams to design a service which will benefit the employees schedules. To date, service has been provided to east central Fresno to the GAP distribution system which has over 1,000 employees. This service also included a stop at the Internal Revenue Office in Southeast Fresno which has over 5,000 employees. This service was not successful and was discontinued after 60 days. Another express service was provided to the southern end of Fresno where there is a business park and several major employers which were surveyed and expressed an interest in service. The service began in March 2001, and was discontinued in May due to a lack of ridership. As a result, FAX began providing vanpool service in January 2004 to the downtown area and has been able to sustain 12 vans with 10 to 12 passengers per van. This service has been successful in part because commuters do not want to use the transit bus even if it is providing express service. A vanpool is more comfortable and allows passengers to set their own travel time to and from work. FAX has requested additional funding from the local Air Pollution Control District to continue this program and has also received funding from local Congestion Management and Air Quality funds to expand the program throughout the County.

Future Bus Service Improvements/Expansion Plans

Working with land use and transportation policy makers, FAX hopes to ensure transit friendly development along the principal transit corridors identified in the City of Fresno General Plan. This will allow FAX to concentrate transit resources and provide high frequency service along these designated routes.

FAX will be monitoring route level and system-wide performance indicators to evaluate the effectiveness of the Service Improvements. Refinements in running time, coordinated transfers, on-time performance, and peak period service enhancements will be developed and implemented as funding allows.

In the future, route terminals or end points will become more important as transfer locations following the model of the Market Place at River Park. Common route terminals facilitate interlining which, in turn, create opportunities for time and equipment savings. Where multiple routes share terminal points the opportunity for transfer centers are best. As such, FAX will be evaluating the opportunities for restructuring routes to facilitate terminal ending at these locations. These major transfer points may also act as collector locations for suburban shuttle and circulator type services as well as park-and-ride facilities.

Maintain Service Reliability - FAX has been experiencing major increases in ridership during peak period service. These capacity issues occur most frequently near schools, and are present for only short periods of time, often less than one hour. On Route 26, additional trippers have been provided to help offset the high ridership. Also problems continue to occur on Route 28 which provides service to the major university. FAX with support with funding from local CMAQ funds will be providing 15 minute service on Route 28 and Route 30 beginning in FY06. These routes have been experiencing increases in demand for service and have been congested and delayed for a long period of time. It is anticipated that the increase in frequencies will provide a more reliable service to passengers.

Increase Service Coverage - As the urbanized area continues to spread, more and more development is occurring where public transportation does not currently exist. These newly developed areas, as a rule, do not have the density to justify fixed-route service on 30 minute headways. Additionally, adjusting trunk line service is a difficult and often very costly solution. For these reasons, this SRTP proposes to evaluate circulator service as an option for providing service in currently unserved and newly developing areas. As discussed earlier, the introduction of the FANS service is an attempt to assess new areas for ridership without the cost of a system wide adjustment. There are many good reasons for selecting South East Fresno including the existence of several generators which have the potential to show significant transit ridership. Among these generators are: the new Sunnyside High School, which is located at Peach and Kings Canyon Avenues, a new middle school to be located at Willow and Church Avenues, Pacific College, the Internal Revenue Service, and the Senior Citizens Village. All of these sites are significant generators in south east Fresno. Additionally, there are many new residential developments in the area. In FY06 FAX will be constructing a new transit facility in the Southeast corridor which will provide more transportation access to passengers in the area. The center will act as a transit multimodal center which will include access to transit, bikeways, walking and some nearby multi family housing. This facility will be the first multimodal transportation center in Fresno and should be in place by early 2006.

Among the considerations for future service adjustments will be an evaluation of service frequency during peak, off peak, night, and weekend service. Determinations about the effectiveness of the FANS circulator will lead to proposals to either develop new service models, or to implement additional circulator service. Also, with the installation of the Siemens AVL/GPS Radio System installation, FAX and Handy Ride have been provided with real time schedule adherence data. The data collected through the Siemens Radio System has allowed FAX planning staff to assess various problems within the FAX and Handy Ride systems so that adjustments can be made accordingly. The Siemens System has also opened the door for FAX to consider a myriad of other ITS technologies including Smart Card Fareboxes, Automatic Passenger Counters (APC), and Real Time Customer Information Services which have been installed at the Manchester Transit facility. This technology is a real time arrival information

system which displays bus arrivals and departures in a similar manner as is commonly provided in airports. In July of 2001, FAX installed APCs in four buses, which will allow a more accurate count of ridership characteristics. Ultimately, it is anticipated that this data will lead to FAX's ability to attract new customers, and to improve the service for existing passengers.

3.4.0 Customer Services and Public Information Program

FAX desires to increase ridership while enhancing customer satisfaction with transit services. To accomplish this, new initiatives have been implemented and described below.

Public Information and Outreach - During FY04, FAX continued the implementation of various Marketing and Service Development strategies. Efforts have been made to provide a program of public information and outreach activities with the intent to increase public awareness and ridership as well as improve public perception of public transportation in the FCMA.

FAX Planning staff continues to work with employee transportation coordinators (ETC's) at work sites throughout the FAX service area. Work site visits were conducted to promote transit services and gather suggestions to improve existing services. Transit user guides such as transit schedules, bike rack user guides, system maps, transit commuter benefit information, FAX newsletters, and service change announcements were made available. Additionally, transit trip planning was provided to assist new passengers.

FAX introduced the Silver Sundays Program in 2004, which allows seniors to use the FAX route system each and every Sunday throughout the system at no charge. This service has been used extensively by seniors for visiting family, going to church, or to just get getting around town.

FAX again, operated the "FAX Christmas Bus" during the winter holiday season. A bus is decorated by the FAX Maintenance Division and circulated on various routes. Passengers are offered a free ride on the bus as a token of appreciation for riding FAX. The bus helps in promoting the Christmas spirit and to increase public awareness of transit. The bus is showcased at elementary schools during the Christmas season and in the Downtown Fresno Christmas parade. FAX also provided free trolley service along the Van Ness X-mas tree for passengers which was a very popular and successful event.

In FY06, FAX will be opening a downtown service office, which will include a pass outlet, trip planning, amongst other transit services so as to be closer to the transit public. The facility will be located along Tulare Avenue and will be a short walk from the downtown shelters. In addition, FAX will be working on a system wide Marketing Plan which will include a new FAX theme bus, which will be available for community events.

FAX has also purchased land to develop a Transit Oriented Development along Kings Canyon Avenue, which will provide a transit shelter, some market rate housing, bus stop, access to bikeway and walkway, and other transit facilities such as an information kiosks and restrooms. This project will be initiated in 2006 and will require extensive participation from the City of Fresno, FAX, and the development community. The success of this TOD project will set the benchmark for future projects of this type. FAX has also included some low cost marketing strategies which were developed by Odyssey Research in 2004 as part of an Environmental Justice Study conducted in the Fresno Area. Some of the strategies include a Downtown Wayfinding Map, a Photonovella, and Road Reads, which includes information on various bus drivers and are placed on the buses for all passengers to enjoy.

Financial Plan

4.1.0 Introduction

The Financial Plan presents FAX's financial forecasts associated with projected transit services including capital projects to maintain, enhance, and expand FAX services. The Baseline Plan demonstrates that FAX has the financial capacity to operate and maintain all planned services without assuming any significant new local sources of operating revenue. The COFCG recently conducted a survey on the Measure C funds, and determined that over the next twenty-year period there will be an increased demand for transit, therefore, public policies in the future should favor support of transit. More recently, FAX is undertaking a Regional Public Transportation Infrastructure Study which will highlight transportation needs for the future and the possible need for future funding sources such as Measure C funds.

4.2.0 Capital Program

FAX presently operates 114 buses including 3 replica trolleys, 30 Handy Ride paratransit cut-a-ways, 4 transit vans, a maintenance facility, and a transit center. Table 4.1 summarizes costs and funding sources for currently identified capital projects from FY05 through FY10. Costs and revenue are shown in FY04 dollars. FAX is proposing some significant capital improvements over the next five years.

The total five-year Capital Improvement Program (CIP) for FY06 through FY10 is projected to cost \$22.5 million as identified in Table 4.2. Capital expenditures are targeted in seven primary project areas including:

- Heavy duty 40-foot buses,
- New multimodal facility
- Retrofitting of heavy duty 40-foot buses
- Passenger amenities and facility upgrades,
- Handy Ride vehicle purchases, and
- Non-revenue vehicle replacements.
- Planning

Additionally, planning expenditures for projects and services performed by COFCG staff assigned to FAX are included in the CIP. Preventative maintenance programs and vehicle tire leases are capitalized for reimbursement through FTA. Capital leases for paratransit vehicle tires and the paratransit facility are capitalized, as well as the paratransit maintenance program provided through a contractual agreement with Laidlaw Transit Services.

Table 4.1
FAX Five Year Operating Budget
FY05 through FY10
(\$thousands)

OPERATING REVENUES	FY05	FY06	FY07	FY08	FY09	FY10
Passenger Fares <i>(0.0601 annual increase)</i>	\$9,766	\$10,353	\$10,975	\$11,635	\$12,334	\$13,075
FTA Section 5307 <i>(0.029 annual increase)</i>	\$6,190	\$6,370	\$6,554	\$6,744	\$6,939	\$7,140
City of Fresno (Measure C)	\$1,400	\$1,400	\$1,400	\$1,400	\$1,400	\$1,400
LTF Funds <i>(0.0325 annual increase)</i>	\$11,995	\$12,385	\$12,788	\$13,203	\$13,632	\$14,075
STA Funds <i>(0.01 annual increase)</i>	\$928	\$937	\$946	\$955	\$964	\$973
Advertising Revenue	\$194	\$200	\$206	\$212	\$218	\$224
Other Revenues <i>(0.01 annual Increase)</i>	\$101	\$102	\$103	\$104	\$105	\$106
Transfers <i>(STA to Capital 00.029 annual increase)</i>	\$(180)	\$(185)	\$(190)	\$(195)	\$(200)	\$(205)
TOTAL OPERATING REVENUES	\$30,396	\$31,563	\$32,782	\$34,058	\$35,392	\$36,788
OPERATING COSTS	FY05	FY06	FY07	FY08	FY09	FY10
Fixed Route Service						
Employee Services <i>(0.035 annual increase)</i>	\$18,891	\$19,552	\$20,237	\$20,945	\$21,678	\$22,437
Operations, Maint & Training <i>(0.06 annual increase)</i>	\$4,683	\$4,964	\$5,262	\$5,577	\$5,911	\$6,266
Interdepartmental <i>(0.0937 annual increase)</i>	\$2,736	\$2,992	\$3,272	\$3,578	\$3,913	\$4,279
Special Projects	\$150	\$150	\$150	\$150	\$150	\$150
In-Lieu payments	\$619	\$619	\$619	\$619	\$619	\$619
Minor Capital, Contingency	\$50	\$50	\$50	\$50	\$50	\$50
Handy Ride Service						
Employee Services <i>(0.035 annual increase)</i>	\$116	\$120	\$125	\$129	\$134	\$139
Laidlaw Contract <i>(0.03 annual increase)</i>	\$2,224	\$2,291	\$2,360	\$2,431	\$2,503	\$2,578
Operations, Maint & Training <i>(0.06 annual increase)</i>	\$144	\$153	\$162	\$171	\$181	\$192
Interdepartmental <i>(0.0937 annual increase)</i>	\$356	\$390	\$436	\$476	\$520	\$569
In-Lieu payments	\$0	\$0	\$0	\$0	\$0	\$0
Minor Capital	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL OPERATING COSTS	\$29,969	\$31,281	\$32,673	\$34,126	\$35,659	\$37,279
TOTAL OPERATING SURPLUS/(DEFICIT)	\$427	\$282	\$109	\$(68)	\$(267)	\$(491)

*NOTE: All Revenue and Operating Cost data are projected. Includes FTA reimbursements for capital, planning, and preventative maintenance expenses.

4.2.1 Revenue Vehicles and Vehicle Equipment

FAX's revenue service vehicles include buses and paratransit vans. Replacement of existing revenue vehicles, when due, is one of FAX's highest capital priorities. As another priority, FAX will be increasing the number of buses from 114 in 2005 to 139 during the SRTP period. The SRTP projects an annual operating budget of \$29.9 million in FY05 increasing 24 percent to \$37.2 million in FY10 (see Table 4.1). Projected operating revenues are not anticipated to offset total costs over the five-year period and will result in an estimated shortfall of \$491,000 by FY10. The projected operating budgets assume a six percent annual increase in fares and a 3.25 percent increase in State LTF funds. FTA Section 5307 operating assistance was eliminated in FY99, however, TEA 21 allows the capitalization of preventative maintenance programs, which more than offsets the loss of FTA operating assistance.

Bus Replacement

Cost estimates for replacement buses programmed in FY05 and beyond are based primarily on APTA survey data for 30 foot, 35 foot, 40 foot and 60 foot (articulated) buses. Primary funding for replacement buses is assumed to be from the Federal Transit Administration (FTA) Section 5307 (Urbanized Area Capital) program, with approximately 20 to 25% FAX local match. In support of a gradual increase in bus service through FY10, FAX will continue to operate a small number of older buses for a limited time even after replacements for these buses have been placed into service.

Full-size buses - The CIP includes three additional hybrid electric buses to arrive in FY06, and ten CNG 40-foot buses which are expected to arrive in FY05. Also, twenty replacement 40-foot buses are budgeted in FY06, ten in FY07, twenty in FY08 and sixteen in FY09. Additional fleet purchases are scheduled with ten expansion 40-foot buses in FY06, and an additional ten in FY07.

FAX has purchased Hybrid Electric vehicles which comprise the best available technology for reducing harmful vehicle emissions. With their purchase, FAX and the COFCG are implementing their commitment to cleaner air by demonstrating this cutting edge technology. In 2005, FAX will also receive delivery of 2 Hybrid gasoline vehicles for the fleet. The total five-year fleet replacement program cost is over \$10 million.

Paratransit buses - As part of the CIP, FAX will be ordering paratransit buses in FY05 through FY10. A total of twenty four replacement vehicles and fourteen expansion vehicles are programmed for a five-year program cost of \$722,200. This figure does not include any vehicle funded through the Caltrans 5310 program which includes funding for the replacement and expansion of paratransit vehicles. FAX will continue to apply for these competitive grants in the future to help offset the costs of vehicle replacements.

Bus Expansion

System efficiencies based on productivity will continue to be the basis for shifting system resources in the future. Route cost analysis based on fully-allocated costs will be an integral part in determining feasible tradeoffs and future service improvements. Within the proposed service level, service adjustments will be made during the planning period on individual routes and schedules to reflect existing and changing ridership characteristics and needs. The SRTP recommends that any future required service adjustments continue be made on the basis of the goals, standards and objectives listed in Chapter I. This type of vehicle will provide relief for some of FAX's highest volume bus routes. Service changes will be made on the busiest routes as required to address on time performance.

Clean Air Engine Retrofit

FAX's commitment to improving the environmental efficiency of transit operations was encourage by a grant from the local Air District which offers funding support for clean engine technology projects. This project has installed new EPA certified retrofit kits for all seventeen of FAX's 1993 diesel buses, thereby advancing these buses to the forefront of the low emission diesel technology. Total costs for this project are estimated at \$1 million of which almost 80% is supported by Carl Moyer Air Quality funds. FAX has also received funding from the San Joaquin Valley Air Pollution Control District to upgrade buses with Cleaire aftermarket retrofit technology. To date, FAX has installed the Cleaire kits on 20 vehicles and has funding for an additional 42 which will be completed in 2006.

Updating engines in older buses with low emission diesel engines is considered a fiscally sound and effective approach for immediately reducing transit bus fleet emissions and is consistent with the requirements of the ARB's Transit Fleet Rule and the City of Fresno Clean Air Ordinance.

4.2.2 Support Vehicles

FAX has determined that the optimal point to replace non revenue vehicles to minimize capital outlays, maximize reliability and minimize repair costs, ranges between 6 and 20 years and a minimum of 85,000 miles, depending on vehicle type and usage. Vehicles are generally scheduled for replacement according to age, mileage, vehicle condition, and reliability requirements for each vehicle type as follows;

Field supervisor accessible handivans	6 years or 100,000 miles
Sedans & passenger vans	8 years or 85,000 miles
Mini pickups, station wagons,	
Road call trucks, utility vehicles	10 years or 100,000-120,000 miles
Cargo vans, medium trucks	12 years of 100,000 -120,000 miles
Heavy trucks, utility equipment	15-20 years

FAX's fleet of non-revenue vehicles assists in the operation of the fixed-route service. This fleet is composed of stock vans which are used to make driver shift changes, provide for road supervisor inspection and assistance and response to road calls. Also included are large trucks, pickup trucks, fork lifts and trailers which are used in maintenance and operations. The replacement program for non-revenue vehicles over the next five years will cost \$320,000.

4.2.3 Passenger Facilities Expansion and Rehabilitation

FAX's passenger facility capital improvement program includes bus stop improvements, and replacement of transit passenger amenities such as information signs, benches and bike lockers.

Bus Stop Accessibility Improvements - To meet ADA requirements for bus stop accessibility, FAX has developed a program to upgrade all deficient bus stops. To date, improvements to over 550 of the over 1,900 stops have been completed. The construction of bus stop areas for convenient, comfortable, and safe passenger waiting areas will also include upgrading of benches and bus shelters in the project area. FAX has replaced over 500 benches and 190 bus shelters over the last year, and will continue to upgrade these facilities throughout the system. This project is programmed for \$400,000 over the life of the S RTP.

Planning Projects - Planning projects provide support of planning functions. An on-going planning function is necessary to provide FAX with information to adjust the system for long-range and short-range transit needs, and to meet the various complex Federal and State Transportation planning requirements. COFCG planning staff perform all service planning functions for FAX, through a contractual agreement with the City of Fresno, Transit Division. A Transit Supervisor is included in the FAX Planning section to perform scheduling duties. Consultant studies are also coordinated by COFCG staff which includes the Regional Transit District Formation Study and Regional Transportation Infrastructure Study which will be completed in 2006. Planning Projects are programmed for a total of \$2.1 million over the life of the SRTP.

4.2.4 Total Capital Program

The total capital program to be undertaken by FAX includes both the Capital Program and the Measure C Program.

FTA - Operating and Maintenance expense reimbursement

This project provides FTA reimbursements for expenses in programs directly related to preventative maintenance on fixed-route and paratransit vehicles, capital lease of vehicle tires, and allowable contracted paratransit expenses. Fixed-route vehicle preventative maintenance programs are eligible for 80 percent FTA reimbursement. Handy Ride contracted vehicle maintenance expense are eligible for 25 percent reimbursement, while contracted vehicle operations are eligible for 20 percent FTA funding.

Table 4.2
FAX Five Year Capital Improvement Plan
FY05 through FY10

Project Descriptions Year	FAX Fiscal	FY04/05	FY05/06	FY06/07	FY07/08	FY08/09	FY09/10
Purchase of Heavy Duty Transit Vehicles							
Replacement 40-Foot Standard Transit Buses			20@\$382,000	10@\$382,000	20@\$401,100	16@\$382,000	
Service Expansion Standard 40-foot Buses			10 @ \$382,000	10 @ \$382,000			
Planning Projects							
COFCG Planning		\$300,000	\$325,000	\$350,000	\$375,000	\$400,000	\$425,000
FAX Planning		\$365,900	\$384,200	\$403,400	\$423,600	\$444,800	\$555,000
Handy Ride (Paratransit) Vehicles							
Replacement Vehicles			3@\$26,300		3@\$29,000		
Non-Revenue Vehicles							
Replacement Vehicles			3@\$68,300	3@\$71,700	3@\$79,100	3@\$83,100	
Preventive Maintenance - 80% FTA		\$5,990,000	\$6,289,500	\$6,604,000	\$6,934,200	\$7,280,900	\$7,903,500
Contracted Paratransit Service		\$2,097,200	\$2,202,100	\$2,312,200	\$2,427,800	\$2,549,200	\$3,057,600
Capital Lease - Vehicle Tire Lease - 80% FTA		\$175,900	\$184,700	\$193,900	\$203,600	\$213,800	\$85,200
Capital Lease - Handy Ride Facility - 80% FTA		\$65,600	\$68,900	\$72,400	\$76,000	\$79,800	\$211,500
Portable Lift Equipment							
Install Replacement Farebox System			\$2,100,000				
Install Replacement Lift Pump and Cylinders			\$150,000				
Install Automatic Passenger Counters			\$48,000				
Install Bus Washer				\$300,000			
Passenger Amenities/Kiosks		\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Total Capital Local Match Funds Required		\$1,818,920	\$4,719,240	\$3,638,200	\$3,777,240	\$3,485,960	\$2,467,560
Section 5307 Formula Grant Funds		\$9,094,600	\$23,596,200	\$18,191,000	\$18,886,200	\$17,429,800	\$12,337,800
Congestion Mitigation Air Quality (CMAQ) Funds		\$0	\$236,342	\$3,425,762	\$6,974,736	\$4,145,591	\$7,106,169
Total Federal Capital Funds Available		\$8,493,580	\$17,422,718	\$11,127,038	\$8,134,224	\$9,798,249	\$9,996,258
Federal Fund Amount Over/Short Request		\$1,217,900	(\$1,454,242)	(\$3,425,762)	(\$6,974,736)	(\$4,145,591)	\$7,146,169
Adjusted Federal Capital Funds Available							

Third Shift and Weekend Evening Service

The SRTP does not provide for extended fixed-route evening service on weekends, nor does it provide for third shift service at any time. The first weekend coach run ends around 4:00 P.M., and all weekend operations are completed by 7:45 P.M. The need for night service on weekends, and the potential need for third shift service to satisfy the needs of transit dependant populations to seek and maintain employment will be evaluated during the course of this SRTP.

Service to Newly-Developing Areas

Many of the new moderate-income areas within FAX's service area are developing beyond existing transit routes. The SRTP provides for limited extension of some existing routes into these new areas with proposed circulator service. However, FAX cannot assure additional expansion of service over the next five years in order to meet this tremendous growth. Additional service to new areas will be evaluated and implemented when warranted, and as funding allows.

4.3.0 Transit Revenues

Projected revenues and expenditures for operation of the transit system are summarized in dollars.

FAX State TDA and STA - The State Local Transportation Funds (LTF) have remained relatively stable, reflecting population growth, inflation and sales tax revenues (Table 4.1) Unlike LTF, however, the availability of State Transit Assistance (STA) funds have been extremely unpredictable (Table 4.3). The passage of Proposition 111, however, assured that funds would be made available for STA subject to budget appropriations.

Measure C funds - Local funding for public transit historically has been limited to general revenue sharing funds. FAX, however, currently receives no general revenue funds. In November 1986, a local proposal to levy a one-half cent sales tax county-wide for the next twenty years was approved by a majority of voters in Fresno County. The Measure C local sales tax dedicates a maximum of 75 percent for improvements on the State highway system, and not less than 25 percent to local jurisdictions for discretionary transportation programs. Fresno County will be determining the future of Measure C funds in 2006.

Farebox and Other Revenues from Operations - FAX Strategic Plan envisions an increase in transit service with major gains in ridership and farebox revenues. Fare revenues are projected based on ridership forecasts and assume an increase in ridership based on the increases over the last few years. In FY04, FAX provided almost 12 million passenger rides. However, since the fare increase in 2001, ridership has reduced thus creating a shortfall in revenue for the SRTP period.

In January 2003, FAX renewed its agreement with Vista Media to provide exterior advertising on all FAX buses. To date, over 50% of the buses have some form of advertising and over a three year period this program has provided FAX with over \$1,000,000 in revenue.

Table 4.4 reflects FAX's overall operating budget for both fixed-route and demand-responsive service for the past eight fiscal years and the requested budget for FY05. As shown, fixed-route service historically has comprised between 91 and 94 percent of the overall operating budget. Table 4.5 shows the Transit Division's operating budget broken out by major cost categories for the same period and includes the following categories: "Employee Service"; wages, salaries, and fringe benefit costs, "Operation, Maintenance and Training"; fuel, parts, inventory, supplies, building maintenance, training and travel, and "Interdepartmental Charges"; self-insurance, fleet rental, data processing, and fixed reimbursements to the General Fund. The Transit Division's operating budget has increased from \$14.3 million in FY93 to \$29.7 million in FY05.

Table 4.3
Transportation Development Act Fund History - FY91 through FY04
(thousands)

FY	LTF Article 6	STA	Total	% Change
1991	\$8,127,797	\$183,351	\$8,311,148	
1992	\$7,876,815	\$502,890	\$8,379,705	-0.08%
1993	\$7,846,808	\$439,854	\$8,286,662	-1.11%
1994	\$8,200,997	\$436,706	\$8,637,693	4.20%
1995	\$8,698,034	\$503,723	\$9,202,295	-8.54%
1996	\$9,338,034	\$539,066	\$9,877,100	7.33%
1997	\$9,125,034	\$569,711	\$9,694,745	-1.84%
1998	\$9,262,800	\$642,900	\$9,905,700	-2.17%
1999	\$8,482,107	\$814,559	\$10,296,970	3.95%
2000	\$10,364,732	\$802,559	\$11,167,291	8.45%
2001	\$11,059,197	\$818,100	\$11,877,297	6.35%
2002	\$11,951,407	\$830,000	\$12,781,407	7.61%
2003	\$12,578,340	\$1,057,424	\$13,635,764	6.68%
2004	\$13,509,775	\$852,069	\$14,361,844	5.32%

Table 4.4
FAX Operating Budget - FY93 through FY04
(\$ thousands)

FY	Transit Division	% Costs	Handy Ride Division	% Costs	Total Operating Costs
1992/93	\$14,276	93.5	\$1,000	6.5	\$15,276
1993/94	\$14,532	94.1	\$904	5.9	\$15,436
1994/95	\$14,683	93.0	\$1,108	7.0	\$15,791
1995/96	\$15,322	93.4	\$1,075	6.6	\$16,397
1996/97	\$16,403	92.0	\$1,147	8.0	\$17,820
1997/98	\$16,526	92.0	\$1,599	8.0	\$18,125
1998/99	\$18,509	91.4	\$1,749	8.6	\$20,258
1999/00	\$21,778	92.3	\$1,829	7.7	\$23,607
2000/01	\$22,967	92.4	\$1,891	7.6	\$24,858
2001/02	\$23,987	92.5	\$1,957	7.5	\$25,944
2002/03	\$25,172	90.0	\$2,844	10.0	\$28,016
2003/04	\$26,965	88.5	\$3,480	11.5	\$30,445

Table 4.5
FAX Operating Budget by Major Cost Category
FY93 through FY04

(\$ thousands)

FY	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/2	2002/03	2003/04
Employee Services	\$11,072	\$11,439	\$11,958	13,172	\$14,522	\$15,030	\$15,556	\$16,100	\$16,663
Oper.,Maint. & Training	\$2,397	\$2,673	\$2,945	\$2,778	\$3,570	\$3,784	\$4,011	\$4,251	\$4,506
Interdepartmental	\$1,622	\$1,845	\$1,751	\$1,935	\$2,617	\$2,862	\$3,130	\$3,423	\$3,743
In Lieu Payments	\$194	\$425	\$496	\$498	\$555	\$555	\$555	\$555	\$555
Minor Capital, Cont	\$37	\$21	\$49	\$126	\$514	\$585	\$585	\$4287	\$4978
FTA-Capital Re-lmb									
Total Operating Costs	\$14,532	\$14,683	\$17,199	\$18,509	\$21,778	\$24,858	\$25,944	\$28,016	\$30,445

Percentage of Total Annual Operating Budget

FY	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/2	2002/03	2003/04
Employee Services	72.3%	70.0%	69.5%	71.2%	66.7%	60.5%	60.0%	58.0%	55.1%
Oper.,Maint.,& Training	15.6%	16.0%	17.1%	15.0%	16.4%	15.2%	15.46%	15.17%	14.8%
Interdepartmental	10.6%	11.1%	10.2%	10.5%	12.0%	11.5%	12.06%	12.2%	12.29%
In Lieu Payments	1.3%	2.1%	2.9%	2.7%	2.5%	2.2%	2.2%	1.98%	1.82%
Minor Capital, Cont	0.2%	0.1%	0.3%	0.7%	2.4%	13.8%	13.8%	12.65%	15.99%
FTA-Capital Re-lmb									
Total Operating Costs	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 4.6
Handy Ride Operating Budget by Major Cost Category - FY93 through FY04
(\$ thousands)

FY	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/2	2002/03	2003/04
Employee Services	\$0	\$0	\$0	\$87	\$95	\$98	\$101	\$105	\$109
Oper., Maint., & Training	\$1,069	\$1,397	\$1,486	\$1,532	\$1,623	\$1,720	\$1,823	\$1,932	\$2,048
Interdepartmental	\$6	\$20	\$23	\$130	\$111	\$121	\$132	\$144	\$158
Transfer, Loans, Cont.	\$194	\$425	\$496	\$498	\$555	\$94	\$41	\$663	\$1,165
Minor Capital, Cont									
Total Operating Costs	\$1,075	\$1,417	\$1,509	\$1,749	\$1,829	\$1,939	\$2,056	\$2,181	\$2,315

Percentage of Total Annual Operating Budget

FY	1995/96	1996/97	1997/98	1998/99	1999/00	2000/1	2001/02	2002/03	2003/04
Employee Services	0.0%	0.0%	0.0%	5.0%	5.2%	5.0%	5.0%	4.8%	4.7%
Oper., Maint., & Training	99.3%	98.5%	98.5%	87.6%	88.7%	88.7%	88.5%	88.5%	88.4%
Interdepartmental	0.7%	1.5%	1.5%	7.4%	6.1%	6.3%	6.5%	6.7%	6.9%
Transfers, Loans, Cont.	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Minor Capital, Cont	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Operating Costs	100.0%	100.0%	100.0%	100.0%	100%	100.0%	100.0%	100.0%	100.0%

Handy Ride - In August 1980, the State Attorney General's Office ruled that Handy Ride and Transit's divisional budgets could be combined for purposes of using Transit Division's farebox recovery revenues in excess of 20 percent to offset Handy Ride's farebox recovery requirements. Thus, in September 1980, Handy Ride became part of the general use system and part of the Transit Division's 20 percent farebox recovery requirements.

Table 4.6 shows Handy Ride's operating budgets for the past seven fiscal years and the requested budget for FY04. The operating budget for Handy Ride as part of the overall budget has increased from 6.5% in FY93 to 11.5% in 2004 representing a need for more paratransit service in the community. The paratransit contract will be up for bid renewal in 2005 and it is anticipated that the overall cost of the program should be more stabilized.

Federal Government (FTA) - On June 9, 1998, the President signed into law PL 105-178, the Transportation Equity Act for the 21st Century (TEA 21) authorizing highway, highway safety, transit and other surface transportation programs for FY1998 through FY2003. Next TEA 21 which should be authorized in 2005 is estimated to provide \$41 billion for transit, and at least \$175 billion in highway funding.

Although TEA 21 eliminates operating assistance for operators serving urbanized areas with populations greater than 200,000, it allows FAX to fund 80 percent of its preventative maintenance (PM) program using capital grants. This represents a 60 percent increase over the previous fiscal year, and more than offsets the loss in Federal Operating Assistance.

FTA Section 5307 (formerly Section 9) capital grants have been the primary funding source for capital expenditures with City or State funds used to meet the local 20 percent share requirement. The federal government appears committed to funding capital assistance. The Plan, therefore, assumes that nearly 80 percent of all capital projects (including PM) for the next five years will be funded by FTA and CMAQ grants.

State of California - The State's Transportation Development Act (TDA) provides two sources of transit revenue, the Local Transportation Fund (LTF) and the State Transit Assistance Fund (STA). The LTF is generated by a quarter-cent statewide sales tax and then apportioned back to counties by population. The COFCG apportions these funds within Fresno County on the basis of population. In FY05, the City of Fresno is projected to receive approximately \$12.1 million from these funding sources. All of these funds are allocated to FAX.

The LTF resources are legislated to continue indefinitely, and the Plan's projected LTF revenues are based upon projections provided by the COFCG, but the actual revenue will fluctuate based on the economy and inflation. To qualify for LTF, FAX must recover a minimum of 20 percent from farebox revenues.

Transit operators cannot rely on the availability of STA funds from year to year. Further, as a condition for receiving STA funds, Senate Bill 3 (Katz) also requires operators to meet an efficiency standard based on operating cost per hour beginning in FY92. Over the last ten years the STA apportionment to Fresno County fluctuated dramatically from a high of \$1.4 million in FY81 to a low of only \$16,000 in FY90. The total estimated STA allocation for FAX in FY05 is \$910,000.

City of Fresno

1. General Fund: Until FY82, the City annually allocated \$500,000 from the General Fund as the local matching requirement for capital grants and transit operations. The City did not allocate any General Funds to transit in the FY83 or FY84 budgets. The City Council, however, funded the pilot Sunday service program for \$500,000 using General Revenue Sharing (GRS) monies in FY85 and for \$435,000 in FY86. **General Fund contributions have not been programmed since FY86.**

2. Local Option Sales Tax - Measure C: In FY88 an additional source of local funding support became available to FAX as a result of the passage of Measure C in November 1986. The passage of a dedicated one-half cent local option sales tax represents unprecedented voter approval to improve the State highway network and provide funding for local transportation projects within Fresno County. The local option sales dollars will lead to completion of portions of the urban and rural highway system, as well as support transit needs over the next twenty years.

The majority of taxes collected are dedicated to the highway system, however, a local discretionary transportation fund is prescribed by legislation to reflect not less than 25% of the total local option sales tax. The local discretionary dollars are then to be apportioned to Fresno County and cities within the County based 75% on population and 25% on proportionate local street and road miles. The City of Fresno's apportionment is to be shared by FAX and the City's Public Works Department. In 2005

the Measure C extension will be voted on by Fresno County residents for an additional 30 year period. This decision will have a definite impact on Fresno's mass transit future. FAX's total farebox revenue (fixed-route and Handy Ride) to operating costs in FY05 was 28 percent.

Consolidated Transportation Service Agency(CTSA) - In 1980, the state mandated through "Assembly Bill 120" that an inventory of social service agencies be conducted to determine the degree of transportation services provided by these agencies and to identify additional transportation needs. The objective of the legislation was to improve the efficiency of providing transportation within the community through the formation of Consolidated Transportation within the community through the formation of Consolidated Transportation Service Agencies and to promote increased coordination and consolidation of transportation services. The COFCG developed an action plan that designates the City of Fresno/FAX and the Fresno County Economic Opportunities Commission (FCEOC) as the CTSA co designates for the Fresno Urbanized area. The City of Clovis is the CTSA designate for its area.

The sources of funding for the CTSA are 45% from Transportation Development Act, (Article 4.5 funds allocated by COFCG), a 45% match from participating social service agencies and 10% from farebox recovery.

As the primary CTSA transportation provider in the Fresno metropolitan area, FCEOC provides transportation brokerage service to all eligible social service agencies assuring efficient, low-cost transportation service within the Fresno urbanized area.

4.4.0 Financial Summary and Reserve Projections

For FY05, FAX system revenues from FTA grants represent 21.1 percent of the total, while LTF/STA revenue equals 44.1 percent of the total revenue. Other revenue sources such as Measure C and exterior bus advertising amount to an additional 7.0 percent of FAX's total budget revenues. The remaining revenue comes from passenger fares projected to provide 31.4 percent.

Under a contract with the City of Fresno, the County pays for a portion of the public transit and paratransit services provided for County residents who live within the fixed-route service area as described by the Transportation Development Act (TDA). County residents within the service area receive the same level of transit and paratransit service as Fresno City residents who live within the service area.

Chapter 5

City of Clovis SRTP

5.1.0 Purpose of SRTP

The City of Clovis Short-Range Transit Plan (SRTP), FY 2005-2010, is the bi-annual update to the operating plan and the capital program. The purpose of this Plan is to promote a comprehensive, coordinated and continuous planning process for transit service in the Fresno-Clovis Metropolitan Area (FCMA) over a five-year planning horizon. This plan proposes specific recommendations for implementing the long-range objectives of Fresno County's Regional Transportation Plan, and will guide the provision of transit services in the FCMA over the next five years.

5.1.1 Summary of Existing Transit System

This document will address the City of Clovis Transportation systems which are described as follows;

- The City of Clovis provides the general public fixed-route service through Clovis Stageline. This service was initiated in August 1990 and serves the Clovis Sphere of Influence and connects with FAX routes in Fresno. The City of Clovis also offers specialized demand-responsive service to elderly and disabled persons through Clovis Roundup.
- FAX operates some service within the City of Clovis and the unincorporated urban areas and receives funding from Clovis and Fresno County for this service. It is appropriate that both agencies have a role in the policy making process impacting FAX. The Plan includes a mechanism for such a role.

5.1.2 Public Transportation Policy Directions

The policies contained in the Regional Transportation Plan for Fresno County, Fifteenth Edition, (adopted by the Council of Fresno County Governments, November 2004) provides general guidance to transit operations within the metropolitan area. The following Goals, Objectives, and Policies provide the framework for developing a sound public transportation system throughout Fresno County. They are specifically targeted toward the public and social service transportation systems.

In 1985, the Clovis City Council adopted the following policies for Clovis Transit as part of the transit planning process. Annually, the Council reviews and amends these standards as needed. Chapter 1120 of the 1979 California Statutes and Assembly Bill 120; Action Plan declare policies and goals which apply to CTSA services.

Policy Direction for Clovis

- Centralized administration for the elimination of duplicated administrative requirements.
- Identification and consolidation of all sources of funding for the provision of more effective and cost efficient services
- Centralized dispatching for more efficient vehicle use.
- Centralized maintenance for adequate, regular and more cost effective vehicle maintenance.
- Adequate driver training programs for safer vehicle operation, and lower insurance costs.
- Combined purchasing for more effective cost savings.

5.1.3 Strategic Plan

At the core of the City of Clovis strategic plan are four goals, each with specific performance measures. The performance measures encompass the full range of the City of Clovis responsibilities. The transit specific performance measures reflecting the City of Clovis current targets for achievement are discussed below;

Goals for Clovis

GOAL 1: SERVICE LEVELS

CLOVIS TRANSIT WILL PROVIDE PUBLIC TRANSPORTATION SERVICE TO A MAXIMUM NUMBER OF PEOPLE IN THE FRESNO-CLOVIS METROPOLITAN AREA.

Objective A: To provide a transit system that meets the public transportation needs of the service area.

Standard 1: Clovis Transit fixed-route service (Stageline) should operate five days a week (Monday-Friday) from 6:15 a.m. to 6:15 p.m.; demand response service (Roundup) will operate six days a week (Monday-Saturday). Operational hours for demand response service is 6:15 a.m. to 6:15 p.m., Monday through Friday, and upon demand from 10:00 a.m. to 4:00 p.m., and occasional community events on Saturday.

Standard 2: Clovis Transit shall implement for demand responsive service to improve overall operations and increase ridership.

Objective B: To provide a transit service that adequately serves the elderly and disabled population.

Standard 1: Clovis Transit should maintain base fare level for elderly and disabled riders, those qualifying for ADA/curb to curb or door to door service pay twice the base fare for service.

Standard 2: As per ADA, all new vehicles purchased must have ADA lifts.

Objective C: To secure a stable and sufficient local funding mechanism.

Standard 1: Clovis Transit should identify and coordinate funding mechanisms that will address all transportation funding needs in the Clovis Area.

Standard 2: Clovis Transit should identify short and long-range funding needs and maximize revenue resources, utilizing all funding mechanisms including federal grants, State enabling legislation and farebox revenue.

GOAL 2: SERVICE QUALITY

CLOVIS TRANSIT WILL PROVIDE A QUALITY, CONVENIENT AND RELIABLE SERVICE.

Objective A: To provide reliable and convenient public transit service.

Standard 1: Clovis Transit should operate its demand responsive service within five (5) minutes before the scheduled pick-up time and no more than fifteen (15) minutes after the scheduled pick-up time. Drivers shall not wait for patrons for more than five (5) minutes after arrival at the designated pick-up time. Passengers going to Fresno must be ready an hour before the pick-up time and may wait 45 minutes to one hour for a ride back to Clovis.

Objective B: To provide clean, attractive and comfortable vehicles and facilities.

Standard 1: All vehicles returning to the yard after revenue service should be swept and dusted before being assigned for service the following day.

Standard 2: The exteriors of Clovis Transit buses should be cleaned at least once a week.

Standard 3: In the winter, the heaters on Clovis Transit buses should work 100% of the time.

Standard 4: In the summer, at least 95% of all vehicles on the street should have operable air-conditioners.

Objective C: To provide a safe system.

Standard 1: Clovis Transit buses should operate in excess of 150,000 miles between preventable accidents, and bus operators should be formally recognized for their safe driving.

Standard 2: Buses should be checked daily for proper operation and condition of lights, mirrors, radios and fluid; detailed mechanical inspections should be done every 3,000 miles/45 days. Operations, maintenance and other employees will be provided safety training at the beginning of their employment and such training will be updated on a regularly-scheduled basis.

Objective D: To record and respond to all public comments.

Standard 1: Clovis Transit will continue to track and evaluate all compliments, complaints and inquiries from the public.

GOAL 3: SERVICE PRODUCTIVITY

OPERATE AN EFFICIENT AND EFFECTIVE BUS SYSTEM.

Objective A: To establish and maintain system-wide productivity indicators.

Standard 1: Clovis Transit should achieve a 10% farebox recovery ratio for demand responsive (Roundup service) and 20% for fixed route (Stageline Services).

Standard 2: Clovis Transit should record and report, at least monthly, the following performance indicators.

Total Monthly Ridership	Total Monthly Revenue
Total Monthly Expenses	Total Revenue Hours
Total Revenue Miles	Farebox Ratio
Total Operating Expense Per Passenger	Total Op Expense Revenue Hour Total Revenue Per
Revenue Hour	Total Op Expense Revenue Mile
Total Revenue Per Revenue Mile	Passengers Per Revenue Hour
Passengers Per Revenue Mile	Average Weekday Ridership
Average Saturday Ridership	Average Sunday Ridership
Percentage of Scheduled Trips Completed	Percentage of Trips on Time
Total Road Calls	

GOAL 4: SYSTEM IMAGE

STRIVE TO PROMOTE ITS SERVICE AND IMAGE IN THE COMMUNITY.

Objective A: To develop and implement an RFP requirement in which Contractors will assist in the update of the Clovis Transit Marketing Program.

Standard 1: Clovis Transit will continue to review and update its marketing efforts.

Standard 2: Clovis Transit should stress the positive impact of Clovis Transit in the community through press releases, speeches, and involvement in community activities at least once a month.

Standard 3: Through effective marketing, Clovis Transit should increase overall system ridership by at least 5% during the fiscal year.

Standard 4: Decrease reliance on Measure C funding by 5% system wide.

Objective B: To provide complete and accurate public transit information.

Standard 1: Current bus schedules and system information should be available to the public at all major public facilities.

Standard 2: Telephone service information should be available to the public at all times.

Objective C: To provide for community involvement in transit system affairs.

Standard 1: Clovis Transit should become involved in and work with citizen groups, the Chamber of Commerce, the Downtown Association and other area merchant associations, to communicate the services and benefits of Clovis Transit.

Standard 2: Clovis Transit should develop a public relations program with area schools to educate children about the bus system.

5.1.4 Organization City of Clovis

In 1988, The Clovis City Council designated its Roundup service solely as a Consolidated Transportation Service Agency (CTSA) function. Local Measure C dollars are used to provide the necessary match of TDA/LTF Article 4.5 funds. The most significant social service provider in Clovis is the Clovis Senior Service Center. Most social services in the area are provided by or through the Senior Center.

Clovis City Council

The City of Clovis consists of five at-large Council members and is the Council is the decision making board for the Clovis Transit.

Committees

The City of Clovis has two standing committees which provide input into the decision making process. The Advisory Committee is a standing committee which consists of members of the public and make recommendations to the City Council. The Social Services Transportation Advisory Committee (SSTAC) also consists of members from the public with varied interests, and make recommendations on policy and technical issues to the City of Clovis and to the COG.

Clovis Staff

The Transportation Section is under the City of Clovis Community Services Division. The Transit Section is overseen by a Transit Supervisor who manages the day to day management of Clovis Transit. The division includes a staff of 12 Stageline employees and 12 Round up employees, and 6 weekend/on-call drivers.

5.2.0 Introduction to Clovis Transit System

The City of Clovis operates two types of public transit service. Clovis Stageline provides general public, fixed-route service within the City limits. Clovis Roundup operates specialized demand-responsive service for elderly and disabled residents with scheduled trips within Fresno. The City of Clovis has designated Roundup services as the Consolidated Transportation Service Agency (CTSA) for the Clovis transit service area.

5.2.1 Bus Service

Fixed Route - From the inception of Stageline service in 1990 through August of 1999, Stageline service was operated under contract with various contracting agencies. In September 1999, the operation was brought in-house and operated by City personnel. Current routes consist of 3 routes on 30 minute headways, one route on one-hour headway and two routes to accommodate school service in the morning and after school. The service operates Monday through Friday from 6:15 a.m. to 6:15 p.m. Stageline buses connect with FAX routes and FAX and Stageline accept inter-system transfers. FAX provides Route 28 service on Shaw Avenue into Clovis as a contracted service renewed annually.

Demand Response - The second service provided by Clovis Transit is Clovis Roundup, which is a demand-responsive system providing both curb to curb and door to door service. It is the backbone of elderly and disabled transportation in the Clovis area. Service is available to qualified riders requesting transportation within the service area and provides essential service to many ambulatory and non-ambulatory passengers. Service is provided by radio dispatched, lift equipped mini buses. The City of Clovis has designated Roundup services as the Consolidated Transportation Service Agency (CTSA) for the Clovis transit service area.

The City of Clovis' demand-responsive service, Clovis Roundup, (See Exhibit 5.2) transports elderly (55 years and older) and disabled residents within its boundaries, primarily along Shepherd Avenue to the north, Dakota Avenue to the south, Locan Avenue to the east and Winery Avenue to the west. Revision of the boundaries will occur as growth in Clovis continues. Zonal service is provided within the City of Fresno as far north as Nees Avenue, south to Kings Canyon, west to West Avenue and south to Downtown Fresno. The system operates on weekdays from 6:15 a.m. to 6:15 p.m., and on Saturdays 8:00 a.m. until 2:30 p.m. Fresno is served Monday to Friday from 7:00 a.m. until 4:00 p.m. Service is provided on both an advance reservation and a real time space available basis. Passengers may make reservations up to 14 days in advance or the required 24 hours in advance and could displace non ADA riders. Roundup policy requires passengers to be ready at least one hour before a schedule Fresno ride and a half hour for a Clovis ride with pick-up within five minutes of the designated pick-up time and no longer then 15 minutes after the designated pick-up time.

Service is available to those persons over the age of six who are certified that because of an impairment, are unable to use the Clovis Transit fixed route system. To become certified, the applicant must complete an ADA application which is evaluated by an outside agency for eligibility. Roundup does not restrict trips based on purpose. Dispatchers schedule as many trips as can be accommodated beyond pre-scheduled subscription trips. The service does not restrict the number of trips provided to an individual nor is a waiting list maintained. Roundup operational practices do not allow for substantial numbers of untimely pick-ups, trip denials, missed trips or excessively long trips which would limit availability of service.

5.2.2 Bus Transit

The service area is consistent with the Planned Urbanized Area (PUA) of the City of Clovis General Plan and represents the area planned for urban growth during the 20 year planning period. Within the PUA are the Cities of Fresno (2000 census population of 427,652) and Clovis (2000 census population of 68,468). The 2000 census population of the Fresno-Clovis Metropolitan Area (FCMA), an area slightly larger than the PUA, 570,169 (Fresno COFCG). The FCMA contains 299 square miles; and a population of 628,655 (2000 Census) and the overall average population density is 3 persons/acre. In the more populated areas of the FCMA, the average density ranges from four to fifteen persons per acre.

5.2.3 Bus Fleet

City of Clovis - The City of Clovis has a fleet of 22 buses, two trolleys and two mini-vans, which are serviced by the City of Clovis fleet department. Roundup operates with eleven lift equipped 16-18 passenger buses.

5.2.4 Accessible Bus Service

City of Clovis - All City of Clovis Stageline buses used to provide fixed route Service are wheelchair accessible. Roundup service also meets the ADA compliance requirements. For additional reference to the ADA requirements, See Section 2.3.0.

5.2.5 Transit Maintenance Program

City of Clovis - The City of Clovis has a City wide maintenance facility which is used to maintain and service Clovis Transit 26 vehicles. Maintenance mechanics are ASC certified. Some mechanics are also trained in Compressed Natural Gas (CNG) engines, systems and tank inspection.

5.2.6 Fare Structure

The fare for the Clovis Stageline service is \$1.00 with a convenience pass sold for \$18.00 for a 20 ride pass, and the Clovis Roundup fare varies from \$1.00 to \$5.00 depending on the end location. During FY05, Stageline and FAX initiated a pilot project for a regional Metro Pass. Results of the project are pending. See Table 5.1 for Fare Structure.

Exhibit 5.1
Clovis Stageline Service Area

Exhibit 5.2
Clovis Round up Service Area

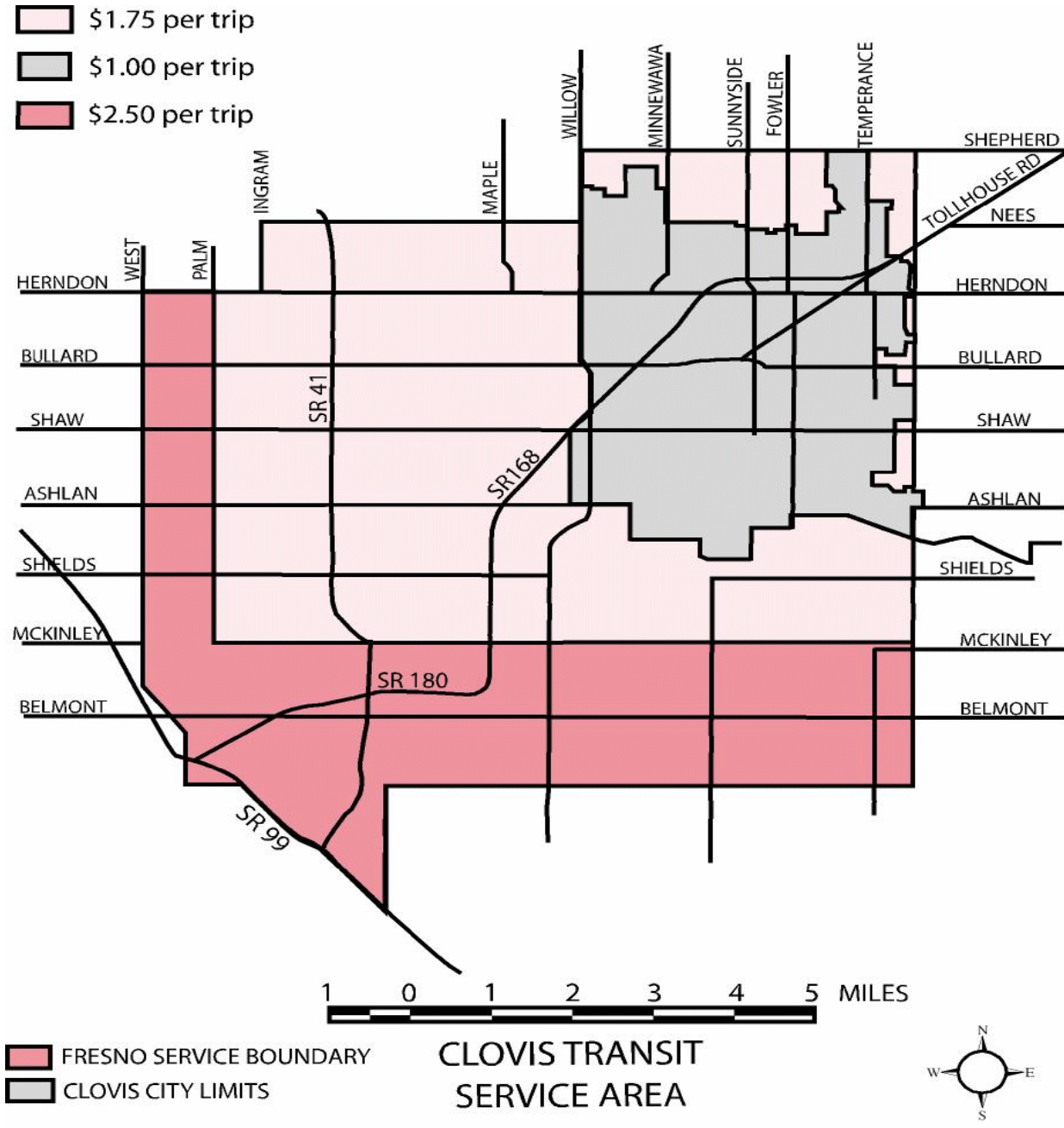


Table 5.1
Clovis Fare Structure

Fare Category	CLOVIS STAGELINE FARES
Single Rider	\$1.00
Senior/Disabled Rider	\$.50
Children Under Free	N/A
Convenience Pass	\$18 for 20 rides
CLOVIS ROUNDUP FARES	
Within Clovis	\$1.00
To/From Fresno south to McKinley and west to Palm	\$1.75
To/From Fresno south to Kings Canyon and west to West including downtown Fresno	\$ 2.50
Door-to door service	\$1.00 additional

5.2.7 Integration of Transportation and Land Use

The Clovis Air Quality Element establishes a policy foundation for implementation of local government control measures. The Element also provides the framework for coordination of air quality planning efforts with surrounding jurisdictions. The amount, location and type of land uses in the Clovis Project Area has long term air quality implications. A pattern of land uses that facilitates an efficient urban form is essential to improving and maintaining air quality. The integration of land uses can eliminate the length and number of vehicle trips. Automobile use is the single greatest contributor to air pollution in California. Most of the air quality problems stems from our dependence on the automobile. A very effective strategy for improving air quality involves making fewer automobile trips and when such trips are necessary, making them shorter. The provision and availability of alternative modes of transportation are essential to the success of this strategy. Alternative transportation demand strategies can increase the efficiency of the transportation system, reduce congestion and improve regional air quality.

In addition energy generation results in the emission of pollutants. Through energy conservation, the demand for energy generation is reduced which decreased emissions of pollutants. Recycling efforts also reduce the amount of energy required for production of goods and materials as well as emissions for landfills.

The City of Clovis has prepared a Circulation Element as part of their General Plan. This element presents goals and policies that will coordinate the transportation and circulation system with planned

land uses. It will also promote the efficient movement of people, goods and services within the project area and will utilize the existing system to its fullest extent and plan for practices that will improve the quality of the environment of Clovis. The Element is also intended to guide the development of the City circulation system in a manner that is compatible with the Land Use Element and other elements of the General Plan.

5.2.8 Development Review Program

The strategy which will be undertaken by the City of Clovis involves the appropriate management of the transportation system. With the ever increasing traffic volumes and limited resources to expand the capacity of some of the existing streets, transportation system management will play an important role in the future. The goal of the Clovis Transportation Management system is to expand the carrying capacity of streets and transit systems through the implementation of low cost strategies. The strategies are to be used to prolong or avoid costly expansion of the facility or service. Traffic signal timing or coordination, additional lanes at intersections, transit service enhancements, parking management and traffic management are all examples of transportation system management strategies which can be expected to be used by Clovis throughout the development review process. Coupled with air quality and congestion management, these strategies will result in significant improvement of the operating characteristics of the existing facilities and services.

5.3.0 Key Transit System Performance Indicators

Clovis Transit - Clovis Transit ridership for fixed route has decreased from FY02 of 100,689 passenger rides to 96,872 passenger rides in FY04. However, the first half of FY05 has experienced a 30% increase in ridership. Clovis Transit has continued marketing programs such as newspaper, billboard advertising as well as targeted marketing radio advertisements.

Overall Roundup ridership has increased from 35,418 passenger rides in FY02 to 37,500 passenger rides in FY04. Overall, total vehicle hours, total vehicle miles and operation for Roundup have increased since FY02. A main reason for the operating cost increase is the increased cost per hour for labor charged by the City's Fleet Maintenance division.

Table 5.2
Clovis Stageline Operating and Productivity Trends FY00- FY04

Indicator	/ FY /					% Change			
	FY00	FY01	FY02	FY03	FY04	FY01	FY02	FY03	FY04
Total Passengers	91,624	89,371	100,689	96,734	96,872	-2.6%	12.8%	-3.9%	1.0%
Vehicle Hours	13,072	14,451	15,374	15,455	16,075	11.2%	5.7%	.5%	4.0%
Vehicle Miles	185,881	231,768	246,382	247,809	258,871	24.7%	6.3%	.6%	4.5%
Operating Costs	\$432,018	\$677,044	\$794,039	\$779,847	\$979,505	56.7%	-14.5%	21.5%	25.6%
Fares	\$86,404	\$135,408	\$158,808	\$155,969	\$195,901	26.1%	-14.5%	21.5%	25.6%
Employees	10	10	10	10	10.25	0.0%	0.0%	0.0%	0.0%
Passenger/Hour	7.01	6.14	6.55	6.26	6.03	-12.4%	7.7%	-4.4%	-3.7%
Passenger/Mile	.49	.39	.41	.39	.37	-20.4%	6.1%	-4.9%	-8.5%
Cost/Vehicle Hour	\$33.05	\$46.56	\$51.65	\$50.46	\$60.93	40.9%	-14.8%	20.1%	20.7%
Cost/Vehicle Mile	\$2.32	\$2.92	\$3.22	\$3.15	\$3.78	25.9%	-15.8%	21.2%	20.0%
Veh Hours/Employee	1,307	1,454	1,537	1,545	1,568	11.2%	0.0%	.5%	1.5%
Op Subsidy/Passenger	\$4.16	\$6.99	\$7.35	\$7.49	\$10.11	68.0%	-22.84%	28.3%	27.2%
Farebox Ratio	20%	20%	20%	20%	20%	0.0%	0.0%	0.0%	0.0%
Fbox ratio w/out Measure C	11.6%	7.8%	6.7%	7.1%	5.7%	-32.8%	28.2%	-14.5%	-19.7%

Table 5.3
Roundup Operating and Productivity Trends FY00-FY04

Indicator	FY					% Change			
	FY00	FY01	FY02	FY03	FY04	FY01	FY02	FY03	FY04
Total Passengers	31,772	31,600	35,418	37,269	37,500	1.8%	11.1%	5.2%	1.0%
Vehicle Hours	15,036	14,900	14,747	18,456	16,762	6.5%	-1.3%	25.1%	-9.2%
Vehicle Miles	166,840	162,845	178,749	198,206	198,365	1.8%	11.0%	10.9%	1.0%
Operating Costs	\$469,548	\$594,490	\$702,833	\$846,215	\$915,678	3.6%	12.3%	23.2%	8.2%
Fares*	\$46,953	\$59,449	\$70,283	\$84,621	\$91,567	3.6%	11.1%	23.2%	8.2%
Employees	8	8	8	8.5	8.5	0.0%	0.0%	0.0%	0.0%
Passenger/Hour	2.11	2.12	2.40	2.02	2.24	-4.5%	-12.7%	-15.8%	10.9%
Passenger/Mile	.19	.19	.20	.19	.19	0.0%	0.0%	-5.0%	0.0%
Cost/Vehicle Hour	\$31.23	\$39.89	\$47.66	\$45.85	\$54.63	-2.8%	13.8%	-1.6%	19.1%
Cost/Vehicle Mile	\$2.81	\$3.65	\$3.93	\$4.27	\$4.62	1.9%	1.1%	11.2%	8.2%
Veh Hours/Employee	1,880	1,862	1,843	2,171	1,972	6.6%	-1.1%	17.5%	-9.2%
Op Subsidy/Passenger	\$13.75	\$17.69	\$18.65	\$22.71	\$24.42	2.4%	.6%	16.9%	7.8%
Farebox Ratio	10%	10%	10%	10%	10%	0.0%	0.0%	0.0%	0.0%
Fbox ratio w/out Measure C	7.1%	6.0%	6.1%	6.3%	6.1%	-6.3%	7.0%	3.3%	-3.2%

5.4.0 Capital Financial Plan

Clovis - Clovis Transit five year Capital Plan projects a balanced budget. Clovis Transit CIP includes service improvements such and replacement of aging vehicles. The Plan also includes Management programs such as updating documents, transit productivity evaluation and monitoring for ADA and STA conformance. Clovis Transit also acquired two trolley buses for use during events and as rentals.

Table 5.4
Stageline Operating and Revenue Budget FY00-FY04

Operating Revenue	1998/99	1999/00	2000/01	2001/02	2002/03
Local Match					
Passenger Fares	\$48,407	\$50,780	\$58,000	\$60,400	\$63,420
Measure C	\$107,422	\$43,510	\$61,330	\$66,354	\$69,671
LTF	\$414,150	\$464,386	\$690,509	\$650,118	\$682,623
STA			\$336,000	\$352,500	\$336,000
Total Operating Revenues	\$569,979	\$558,676	\$1,145,839	\$1,129,372	\$1,151,714
Operating Costs	1998/99	1999/00	2000/01	2001/02	2002/03
Employee Services	\$23,067#	\$235,060	\$406,320	\$381,150	\$400,207
Operations, Maint. & Training	\$111,662	\$112,189	\$159,827	\$145,600	\$152,880
Direct Operating Expenses	\$36,280	\$42,594	\$108,692	\$107,022	\$112,373
Transit Contracts	\$398,970	\$168,833	\$135,000	\$143,100	\$150,255
Capital		\$0.0	\$336,000*	\$352,300*	\$336,000*
Total Operating Costs	\$569,979	\$558,676	\$1,145,839	\$1,129,372	\$1,151,714

*Purchase software in FY01 and AVL system in FY02

Employee Services operating budget is lower in FY98/99 due to contract with Laidlaw which ended in September 99.

Table 5.5
Roundup Operating and Revenue Budget FY98-FY03

Operating Revenue	1998/99	1999/00	2000/01	2001/02	2002/03
Local Match					
Passenger Fares	\$31,708	\$33,117	\$34,000	\$34,000	\$35,700
Measure C	\$158,630	\$135,529	\$108,730	\$27,768	\$29,156
LTF	\$202,589	\$218,677	\$356,485	\$379,212	\$387,672
STA	\$9,063	\$107,999	\$105,000	\$194,831	\$204,572
Total Operating Revenues	\$401,990	\$495,322	\$604,215	\$635,811	\$657,100
Operating Costs					
Employee Services	\$268,317	\$333,598	\$374,151	\$403,794	\$423,983
Operations, Maint. & Training	\$75,431	\$94,752	\$120,512	\$135,300	\$142,065
Direct Operating Expenses	\$58,242	\$66,972	\$93,317	\$86,717	\$91,052
Capital		\$0.0	\$16,235*	\$10,000*	
Total Operating Costs	\$401,990	\$495,322	\$604,215	\$635,811	\$657,100

*Purchase software in FY01 and AVL system in FY02

Appendices

Appendix A

Caltrans Public Transportation, Ridesharing & Park-And-Ride and Bicycle Policies

Caltrans Public Transportation, Ridesharing, Park-and-Ride and Bicycle Policies Public Transportation Policies

Caltrans will support the provisions of public transportation services, as appropriate, within urban areas, within rural areas, and between regions. In both urban and rural areas, adequate public transportation services are required to meet the mobility needs of the poor, the elderly, and the disabled (in general, those person who are financially unable or physically incapable of owning and operating an automobile). In urban areas, public transportation is also needed to serve additional objectives (particularly as they relate to home-to-work or commuter trips); namely, relief of congestion, savings in energy consumption, and improvement in air quality. Interregional intercity or longer distance public transportation is needed, both to serve the transit-dependent population and to serve long-term environmental and social objectives such as reduction in energy consumption.

The Department's authorities and responsibilities in the transit area were clarified and broadened in 1979 with the passage of SB 620, which enables the Department to engage in the design and construction of transit facilities. The statute also indicates the Legislature's intent that there be a state commitment to investments in rail and guideway systems, transit stations, park-and-ride lots, and local transit services. It is departmental policy to aggressively make such investments as expeditiously as possible.

In a more general sense, Caltrans will concentrate its transit activities in the following five areas (not listed in order or priority):

- 1) Assure adequate transportation facilities and services for low-mobility people in all regions of the State.
- 2) Foster development of interregional public transportation. The Department will promote a continuing program of intercity and commuter rail service and intercity bus services.
- 3) Support measures to better integrate transit facilities and services with other parts of the transportation system in a given area. Specifically, along these lines, the Department will:
 - a) Support measures to increase bus ridership on State highways in urban areas, thus making more efficient use of these highway facilities;
 - b) Aid in the securing and protection of corridors for fixed guideway transit service, either on a shared basis with existing highway or rail routes or along abandoned rail lines or vacant highway rights of way;

- c) Develop a program of Intermodal transfer facilities to provide connections between different modes and to connect interregional transit services with local transit systems;
- d) Support measures to coordinate social service transportation and increase services provided by the private sector.
- 4) Sponsor and evaluate transit demonstration projects where the results of the project may have applicability in several jurisdictions.
- 5) Provide technical, financial, and other assistance and services to transit operators to ensure equitable, efficient, and effective use of available resources.

Ridesharing and Park-and-Ride Policies

A goal of the State is to reduce the automobile's contribution to air pollution, energy use, and traffic congestion. Two of the primary means of achieving this goal are to reduce the number of vehicles entering urbanized areas and increasing the number of passengers per vehicle entering these areas. These are emphasized through departmental programs which:

- * Provide for the development of fringe area park-and-ride lots rather than the development of new single-occupant vehicle parking facilities in core areas.
- * Give priority on freeways to high-occupancy vehicles (HOVs) by providing special lanes for these vehicles which results in reduced commute time.
- * Provide centralized offices in several areas of the District that coordinate and encourage the use of carpools, van pools, and bus pools by all employers in the area.
- * Set an example for the private sector by providing preferential parking facilities for HOVs.
- * Encourage RTPA's to plan and coordinate local governments and private industry to implement urban parking strategies which are measures taken to alter the supply or cost of parking to either reduce automobile travel in a selected area or to make the operation of the urban street system more efficient.

Bicycle Policies

It is departmental policy to develop programs and projects which encourage the use of bicycles as an alternative to use of the automobile. Particular emphasis is toward bicycle facilities in urban areas to increase use of the bicycle for commute and other short utilitarian trips. In order to encourage bicycle use, it is Department policy to:

- 1) Provide for continuous and convenient bicycle routes to places of employment, shopping centers, universities, and other high activity areas with potential for increased bicycle use.
- 2) Encourage the development of safe bicycle storage facilities, and other support facilities, i.e., those which would encourage increased bicycle usage.

- 3) Provide coordination and assistance to Federal, State, regional, local, and private agencies in developing plans and facilities to encourage bicycle usage.
- 4) Give consideration to bicyclists' needs through TSM and Air Quality Maintenance Plan (AQMP) strategies.
- 5) Encourage the integration of bicycles with other modes of transportation such as promoting the carrying of bicycles on mass transit vehicles or the provision of safe bicycle storage at transit terminals.
- 6) Make improvements on or adjacent to State Highway corridors to increase safety and convenience of bicyclists.
- 7) Provide route information and education materials to bicyclists.

Appendix B

Elderly, Disabled and Minority Service Considerations

Fixed-Route Service

Fresno Area Express' (FAX) fixed-route service presently serves areas of significant concentrations of elderly population. In evaluating new service requests special consideration is given to areas of significant senior citizen and disabled population.

The entire FAX bus fleet is wheelchair lift-equipped making all FAX buses accessible to persons with disabilities. All FAX fixed-routes were accessible to persons in wheelchairs starting in October of 1991, and starting in 1993, all base period buses were wheelchair accessible.

The fare structure for the fixed-route service provides for a senior citizen disabled base fare (\$.35) or approximately 50% of the general fare (\$1.00). In addition, monthly passes for senior and disabled persons are \$10.00, representing a \$15.00 discount off the regular convenience pass cost of \$25.00. FAX has not had a fare increase since 1990. FAX accepts red, white and blue Medicare Cards, DMV Disabled Parking Placards, ADA Paratransit Certification, and FAX Special Rider I.D. cards for reduced fares. FAX also accepts all appropriate identification showing ages 62 and older for reduced fares.

Demand-Responsive Service

Service for the elderly and disabled population also is provided by Handy Ride which covers the same service area as the fixed-route system. The system is demand-responsive, and trip requests are accepted up to 14 days in advance for certified users. No priority is given to trip type, and there are no trip number limits. Senior and disabled persons pay a \$.35 cash fare or \$25.00 for a monthly convenience pass. An attendant may ride free with the passenger. The fare for a non-certified user is \$3.75 per one-way trip.

As discussed in Chapter 2, The Americans with Disabilities Act of 1990 has had a significant impact on FAX fixed-route and demand-responsive service. A more detailed analysis of the impact of transit services to the elderly and disabled population in the metropolitan area is contained in the FAX ADA "Paratransit Service Plan".

Minority Service Considerations

The FAX Title VI Report evaluates minority population concentrations within the FCMA including African-Americans, Hispanics and Southeast Asians. Hispanics and African-Americans are the most significant minority populations. The existing transit service serves all areas of minority concentrations with the exception of the southwest corner of the FCMA. This area is presently outside of the transit service area and is sparsely populated, making fixed- route service unfeasible at this time.

Handy Ride also provides specialized service to most areas of minority concentrations. Expansions of service into new areas are evaluated for minimum productivity standards and limited

by budgetary constraints. Demands for service outside the current service area will be monitored and depending on future funding and productivity warrants, adjustments may be made.

Marketing of transit service to the Hispanic population includes media contacts with Spanish radio and television stations, news releases to Spanish newspapers, and the publication of route information in Spanish. In addition, bilingual staff is available at the FAX administration office and satellite facilities. FAX began printing schedules in Hmong during FY94, and currently prints schedule guides in Spanish and English.

A more detailed analysis of the impact of transit services on the minority population in the metropolitan area can be found in FAX's "Title VI" report.

Appendix C

Fixed-route Vehicle Fleet Replacement Schedule

	FY05	FY06	FY07	FY08	FY09	FY10
Total Fleet	114	119	129	129	139	139
Active Fleet	104	108	115	115	122	122
Peak Service	83	87	93	93	99	99
Contingency Fleet	8	9	11	11	13	13
Bone Pile Fleet	2	2	3	3	4	4
Replacement Buses	10	20	10	20	16	0
Expansion Buses	5	10	0	10	0	0
Disposition	25	20	10	20	16	0
Spare Bus Ratio	20%	20%	20%	20%	20%	20%

Appendix D

Handy Ride Vehicle Fleet Replacement Schedule

	FY05	FY06	FY07	FY08	FY09	FY10
TOTAL FLEET	30	30	37	37	41	45
ACTIVE FLEET	28	28	34	34	37	41
PEAK SERVICE	28	28	34	34	37	41
INACTIVE FLEET	2	2	3	3	4	4
BONE PILE FLEET	0	0	0	0	0	0
REPLACEMENT BUSES	8	4	4	0	4	4
EXPANSION BUSES	3	7	0	4	4	0
DISPOSITION	8	4	4	0	4	4
SPARE BUS RATIO	7%	7%	8%	8%	9%	9%

Appendix E

Non-revenue Vehicle Fleet Replacement Schedule

VEHICLE NUMBER	MODEL YEAR	SERVICE	REPLACEMENT YEAR
120023	1998	Operations	None
120029	1999	Operations	None
120038	1999	Operations	None
120039	1999	Operations	None
120040	1999	Operations	None
120041	1999	Operations	None
120042	1999	Operations	None
120043	1999	Operations	None
120044	1999	Operations	None
120045	1999	Operations	None
120046	1999	Operations	None
16004	1996	Operations	None
16003	1996	Operations	None
16005	1996	Operations	None
1688	1993	Operations	2003
1689	1993	Operations	2003
1693	1995	Operations	None
1695	1995	Operations	None
1696	1995	Operations	None
6307	1979	Maintenance	None
1956	1987	Maintenance	1998
2010	1987	Maintenance	1997
2614	1988	Maintenance	1997
2116	1992	Maintenance	2003
2773	1992	Maintenance	2000
2795	1994	Maintenance	None
4408	1982	Maintenance	None

APPENDIX F

GLOSSARY

ADA	<i>Americans with Disabilities Act</i> was signed into law on July 26, 1990. The law requires transit systems to make services fully accessible to persons with disabilities, as well as to underwrite a parallel network of paratransit service for those who are unable to use the regular transit system.
AVO	<i>Average Vehicle Occupancy</i> is determined by the number of employees who arrive at a worksite divided by the number of vehicles those employees use to arrive at the worksite.
AVL	<i>Automated Vehicle Location</i> is the use of electronic technologies to allow fleet managers to know where vehicles are located at a given time. In addition to its primary use by transit dispatchers and supervisors, AVL can be linked into other systems and used to provide real time arrival information for transit customers.
AQMP/AQAP	<i>Air Quality Attainment Plan</i> is a plan prepared by an Air Pollution Control District/Air Quality Management District designated as a nonattainment area, for incorporation into the State Implementation Plan for purpose of meeting the requirements of the National and/or California Ambient Air Quality Standards.
CALTRANS	<i>California State Department of Transportation</i> is responsible as the owner operator of the state highway system for its safe operation and maintenance. Caltrans is the implementing agency for most state highway projects, intercity rail, interregional roads, soundwall, toll bridge and aeronautics programs.
CAA	<i>Clean Air Act</i> is a federal law established in 1970 that regulated air emissions. The CAA gives the U.S. Environmental Protection Agency (EPA) authority to establish National Ambient Air Quality Standards (NAAQS) for the protection of the public and the environment. The Act was amended in 1990 (FCAAA).
CARB	<i>California Air Resources Board</i> is a state regulatory agency charged with regulating the air quality in California.
CEQA	<i>California Environmental Quality Act</i> is a state law intended to protect the environment of California. CEQA established mandatory ways by which governmental decision makers are informed about the potential significant environmental effects of proposed projects and identifies ways to avoid or significantly reduce damage to the environment .

CIP	<i>Capital Improvement Plan</i> is a seven year program of projects developed to maintain or improve the traffic level-of-service and transit performance standards, and to mitigate regional transportation impacts identified in the CMP Land Use Analysis Program, which conforms to transportation related vehicle emissions air quality mitigation measures.
CONFORMITY	<i>Conformity</i> means that under the Federal Clean Air Act transportation plans, programs and projects are required to conform to applicable state implementation plans. The conformity determinations must be based on the most recent estimated of emissions and those emissions estimates must be based upon the most recent population, employment, travel, and congestion estimates as determined by the MPO's.
CMA	<i>Congestion Management Agency</i> is responsible for developing the Congestion Management Program and coordinating and monitoring its implementation.
CMP	<i>Congestion Management Program</i> is a state mandated multi-jurisdictional program to reduce traffic congestion. Required of every county in California with an urbanized area as defined by the Census Bureau of at least 50,000 people.
CMAQ	<i>Congestion Mitigation and Air Quality Improvement Program</i> is a new funding program established by ISTEA specifically for projects and programs that will contribute to the attainment of a national ambient air quality standard. The funds are available to non attainment areas for ozone and carbon monoxide based on population and pollution severity.
COG	<i>Council of Governments</i> is a voluntary consortium of local government representatives, from contiguous communities, meeting on a regular basis, and formed to cooperate on common planning and solve common development problems of their area. COG's can function as the Regional Transportation Agencies and Metropolitan Planning Organizations in urbanized areas.
CO SIP	<i>Carbon Monoxide State Implementation Plan</i> is a required by the Federal Clean Air Act to attain and maintain national ambient air quality standards for Carbon Monoxide (CO). CO is a colorless, odorless gas resulting from the incomplete combustion of fossil fuels. The plan is adopted by local air pollution control districts/air quality management district and the State Air Resources Board.
CTC	<i>California Transportation Commission</i> is a body appointed by the Governor and confirmed by the legislature that reviews Regional Transportation Improvement Programs (RTIP) and the Proposed State Transportation Improvement Program (PSTIP) and adopts some transportation projects from these programs into the State Transportation Improvement Program (STIP).

CTSA	<i>Consolidated Transportation Services Agency</i> is responsible for contract services to various social service agencies within the Fresno County area. The CTSA also receives funding from TDA and LTF Article 4.5 revenues.
DBE	<i>Disadvantaged Business Enterprise Program</i> was designed to ensure maximum opportunity for disadvantaged business enterprises to compete for and perform FAX contracts. Consistent with Federal requirements, the definition of socially disadvantaged and economically disadvantaged individuals for the DBE program includes women as well as minority business enterprises.
DOT	<i>Department of Transportation</i> is the department of the federal government that includes the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).
EPA	<i>Environmental Protection Agency</i> is the Federal Agency charged with setting policy and guidelines, and carrying out legal mandates for the protection of national interests in environmental resources.
FCMA	<i>Fresno/Clovis Metropolitan Area</i> includes the geographical boundaries of both the Cities of Fresno and Clovis and the unincorporated areas within the City of Fresno.
FCRTA	<i>Fresno County Rural Transit Agency</i> provides fixed route services throughout the rural unincorporated cities which link communities with each other and with the FCMA.
FHWA	<i>Federal Highway Administration</i> is a component of the US Department of Highways (US DOT), established to ensure development of an effective national road and highway transportation system. It assists states in constructing highways and roads, and provides financial aid at the local level.
FTA	<i>Federal Transit Administration</i> is the Federal Department of Transportation, which is under USDOT. The sister agency to FHWA.
FTIP	<i>Federal Transportation Improvement Program</i> is a federally required document produced by the regional transportation planning agency that states the investment priorities for transit and transit-related improvements, mass transit guide ways, general aviation and highways.
ISTEA	<i>Intermodal Surface Transportation Efficiency Act of 1991</i> is a piece of legislation passed by Congress in December of 1991 that provides for a major restructuring of the highway program. Key components of this Act include an increased flexibility in the programming of projects, a level playing field between highway and transit projects with consistent 80/20 matching ratio, ties to the Federal Clean Air Act and American with Disabilities Act.

LTF	<i>Local Transportation Funds</i> are derived from the 1/4 cent of the statewide sales tax. LTF revenue is returned to local governments for transportation purposes with public transportation the primary focus. LTF is distributed to each city and unincorporated area based on population.
MEASURE C	A Fresno County ballot measure that raised the local sales tax by one quarter cent for a twenty year period until 2006. The measure identified a specific program of priority transportation improvement project throughout the County.
MPO	<i>Metropolitan Planning Organization</i> is the federal designation for COFCG. MPO works with technical advisory committees, interested citizens, and other government agencies. A coordinated effort has been made to develop a multi modal regional transportation plan for Fresno County.
PAC	<i>Policy Advisory Board</i> is composed of the Chief Administrative Officer of each member agency. With the exception of urgency matters, all items must be considered by the PAC before submission to the Policy Board.
PM-10	<i>Particulate Matter</i> is a major air pollutant consisting of solid or liquid matter such as soot, dust aerosols, fumes and mists less than 10 microns in size.
RTIP	<i>Regional Transportation Improvement Plan</i> is a State mandated document which includes a list of proposed transportation projects submitted by the CTC and by the regional transportation planning agency as a request for State funding. The RTIP has a seven year planning horizon, and is updated every two years.
RTP	<i>Regional Transportation Plan</i> is a comprehensive twenty year plan for the region, updated every two years by the regional transportation planning agency. The RTP includes a policy, an action, and a financial element.
SIP	<i>State Implementation Plan</i> is a document prepared by each State describing existing air quality conditions and measures which will be taken to attain and maintain National Ambient Air Quality Standards. It is adopted by local air pollution control districts/air quality management districts and the State Air Resources Board.
SJVAPCD	<i>San Joaquin Valley Air Pollution Control District</i> is the designated air district for the eight county nonattainment area which includes San Joaquin, Stanislaus, Merced, Madera, Kings, Kern, Fresno and Tulare Counties.
SSTAC	<i>Social Services Transportation Advisory Council</i> is a council composed primarily of elderly, handicapped, and persons of limited means that was established in 1988 by COFCG. The council participates annually in identifying transit needs and working closely with COFCG to recommend appropriate action.

STA	<i>State Transit Assistance</i> is a fund derived from a portion of the Motor Vehicle Fuel Tax. The STA supports public transportation services, and is apportioned through the Regional Transportation Planning Agencies to their member agencies on a population basis.
STP	<i>Surface Transportation Program</i> is a new funding program established by ISTEA that allows for mass transit and highway projects. Ten percent of the projects funded under this program must be transportation enhancement activities and 10 percent for safety projects.
TCM	<i>Transportation Control Measures</i> are intended to reduce pollutant emissions from motor vehicles. Examples of TCM's include programs to encourage ridesharing or public transit usage, city or county trip reduction ordinances, and the use of cleaner burning fuels in motor vehicles.
TDA	<i>Transportation Development Act</i> is a California law which provides funding for transit through the Local Transportation Fund and the State Transit Assistance fund.
TIP	<i>Transportation Improvement Program</i> is an expenditure program that is updated every two years. It lists the highway and transit capital improvement projects that have been prioritized in the County for state and federal gas tax funds.
TMA	<i>Transportation Management Area</i> is defined by ISTEA, and is designated by the Secretary of Transportation for all urbanized areas over 200,000. TMA's must include a congestion management system in their planning process. In TMA areas, MPO's are responsible for project selection.
TSME	<i>Transportation Systems Management</i> is designed to identify short term, low cost capital improvements that improve the operational efficiency of the existing transportation infrastructure.
TTC	<i>Transportation Technical Committee</i> is a part of the Areawide Transportation Policy Committee, composed of technical staff from member agencies, other interested agencies, public members and Caltrans. TTC evaluates specific regionally-significant issues and projects.
VMT	<i>Vehicles Miles Traveled</i> is the sum of the linear distance covered by all vehicles in a given time period.

APPENDIX G

Bus Service and Air Quality

A comparison of emissions per passenger mile and bus occupancy

The following charts compare emissions per passenger mile traveled from urban transit buses with various rider occupancy rates to emissions per passenger mile for an average calendar year 2001 light-duty vehicle with 1.2 passengers. The bus model years were selected to represent Knox emission rates of 4.0, 2.0, and 0.2 g/bhp-hr.

Emission rates

The following table shows the model years of the buses selected to represent Knox emission rates of 4.0, 2.0, and 0.2 g/bhp-hr.

Applicable Standards		
Model Year of Bus	Knox (g/bhp-hr)	PM (g/bhp-hr)
2001	4.0	0.05
2003	2.5 (NOx+HC)	0.01
2008	0.2	0.01

The 2.5 g/bhp-hr emission standard for Knox plus HC is typically associated with 2.0 Knox and 0.5 HC. EMFAC 2000, version 2.02 was used to determine the grams per mile emission rates for each bus model year. Since the 2.5 g/bhp-hr standard first applies in the last quarter of 2002, model year 2003 was selected so that the EMFAC model run would accurately reflect full implementation of the 2002 standard. Similarly, the 0.2 Knox standard will apply in 2007; thus, model year 2008 was selected for the EMFAC model run.

The bus emission standards shown above are for the diesel path of the Transit Bus Regulation. In 2007 the diesel path and alternative-fuel path have the same emission limits.

Emission rates in grams per mile for transit buses and average light-duty vehicles are shown below.

Grams per mile			
	Knox	ROG	PM10
Bus MY 2001	18.31	1.23	0.39
Bus MY 2003	6.81	0.65	0.06
Bus MY 2008	0.67	0.34	0.06
LDVs CY 2001	1.18	1.24	0.02

Source: EMFAC 2000, version 2.02

Methodology:

The bus emissions represent urban diesel bus emissions divided by VMT for the chosen model years. Emissions are based on EMFAC 2000, version 2.02. The light-duty vehicle emissions represent light-duty cars, trucks, and motorcycles for the typical calendar year 2001 fleet. Emissions are from starts, soaks, running evaporatives, and running exhaust were divided by VMT. (Resting losses and diurnal emissions were excluded.)

The vehicle occupancy rate for light-duty vehicles was assumed to be 1.2 persons per vehicle based on the peak-period occupancy rate given in the 1991 Statewide Travel Survey.

Caveats

Three issues associated with transit travel are not accounted for in the charts. First, studies show that about 25 percent of transit riders are transit dependent*, meaning they could not make the trip without transit. This means it would take about 19 passengers to represent 15 light-duty vehicles replaced on the road.

Second, transit passengers often arrive at the transit station by way of light-duty vehicle. Therefore, there are emissions associated with traveling by way of transit that are not represented in the grams per mile emissions of the transit bus itself.

Last, the light-duty vehicle fleet is getting cleaner as time goes by due to the LEV II program. As a result, the number of bus riders needed to offset bus emissions in calendar year 2008 will be more than in 2001. This is because the typical light-duty vehicle in 2008 will be substantially cleaner than in 2001.

* While many metropolitan transit rider surveys indicate that over 50 percent of bus riders are "transit dependent" (they don't own a vehicle), over half of this population say they would have someone drive them to their destination if transit was not available. Thus, about 25 percent of bus riders would make the trip in a vehicle.

Table 1. ARB Calculation Methodology Emission Factors (g/mi) and Passenger Offsets

	NOx		ROG		Total Ozone		PM10	
	Emission Factor	Number of Passengers	Emission Factor	Number of Passengers	Emission Factor	Number of Passengers	Emission Factor	Number of Passengers
Diesel Bus	20.4	*	1.17	13	21.57	*	0.58	*
CNG Bus	8.60	25	0.65	7	9.25	21	0.025	3
Light-Duty Vehicle	0.35	N/A	0.1	N/A	0.45	N/A	0.01	N/A

* Indicates that bus emissions exceed light-duty vehicle emissions (per passenger) at full capacity (i.e., 40 passengers on the bus).

Table 2. 2002 EMFAC Summer Ozone/Annual PM10 Emission Factors (g/mi) and Passenger Offsets

	NOx		ROG		Total Ozone		PM10	
	Emission Factor	Number of Passengers	Emission Factor	Number of Passengers	Emission Factor	Number of Passengers	Emission Factor	Number of Passengers
Transit Buses	11.88	14	3.52	4	15.39	9	0.24	7
Light-Duty Vehicles	0.9	N/A	1	N/A	1.91	N/A	0.04	N/A